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Is Impact Software's Team the soccer game of 1995?

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Exclusive preview of NeoN, the stunning Falcon raytracer

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Reviews

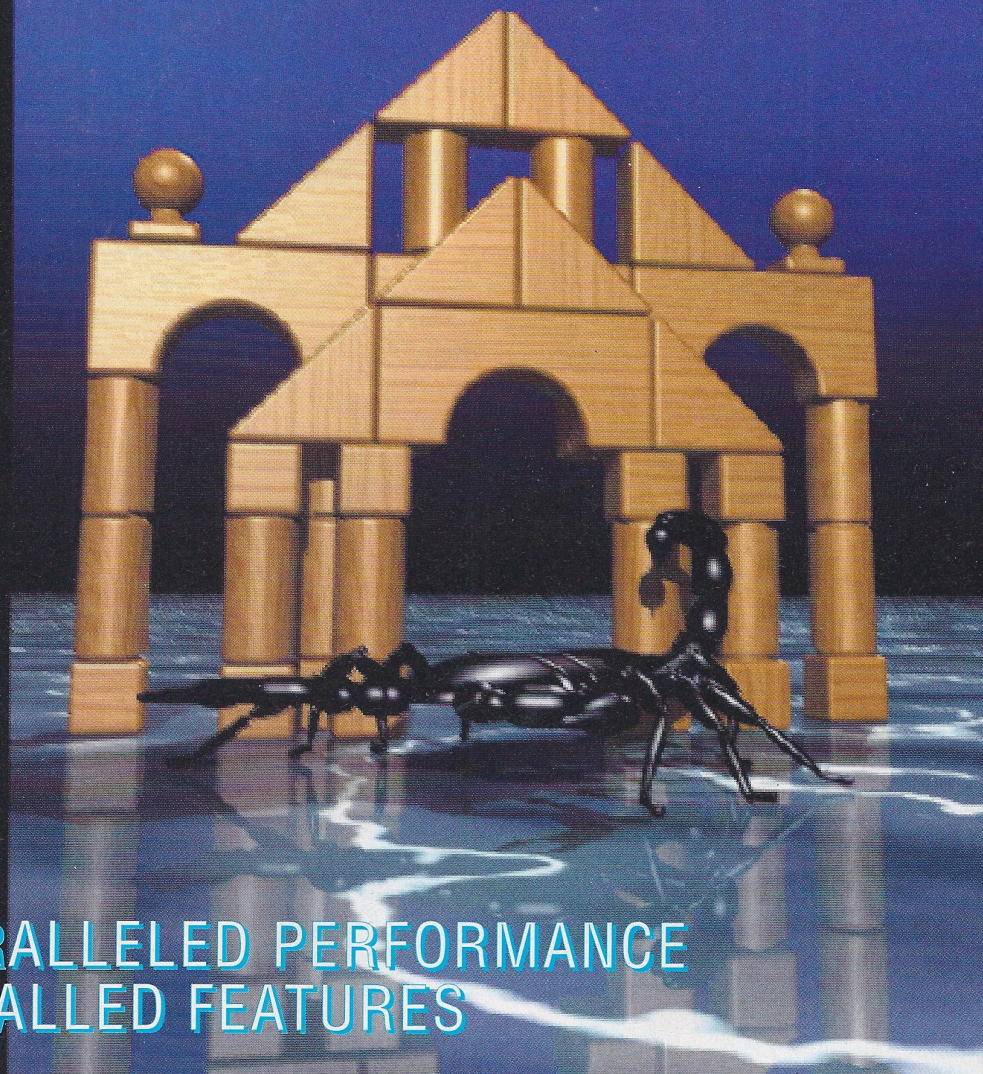
Thought 2 ● TUS HD Floppy Drive ● Xchange ● Audio Master
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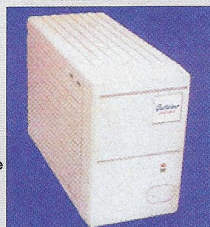
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Disk – see page
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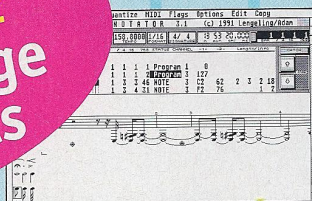
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The listening mag...

We've been so overwhelmed with your response to our survey that we still haven't been able to process them all! In fact, over 2,000

have been received and the results will give a *de facto* vision of today's Atari user. This is the largest survey that any of us involved with *Atari World* can ever remember – our thanks to everyone who responded. The outcome will be a blueprint for today's Atari magazine, the one that will be delivered by this team of enthusiasts – *Atari World*.

And in case you're wondering, the competition results for the Falcon set-up and 12 copies of UVK will be in next month's News pages.

One common trait in most of the surveys we've looked at so far is a desire for the three magazines to be merged into one. As you've gathered from what you're holding in your hands, we've responded to this request immediately. *Atari Pro* and *ST Source* will still continue to have their own 16-page sections, and *ST Source* lies in the central 16 pages so that you can pull it out if you wish.

This issue covers an important topic: computer pornography. I make no apologies about including this, especially as graphic World Wide Web browsers are starting to appear on the Atari. Our piece takes the view that pornography exists, without looking at the morals involved, and endeavours to inform you of the current situation with computing and the Internet. This is bound to offend some of you – make sure you write in and give your point of view.

Next month will have the full version of *Timeworks 2* on Reader Disks – subscribe now to get these free – plus a variety of interesting features and reviews of all the latest products. See you then.

V. Lennard

Vic Lennard, Editor

16 Page Sections...

... on floppy disks in *ST Source* (see page 51) and hard drives in *Atari Pro* (see page 67).

ATARI *Pro*

ST *Source*

SNIPPETS

● System Solutions is now the official UK distributor for Digital Arts products, including DA's Picture, Vector, Vector Pro and Layout. Call 0181 693 3355 for information on upgrades and latest versions.

● After more than twelve months in receivership, a buyer has been found for long term Atari rival, Commodore International. When the company went into voluntary liquidation, the production of all computers ceased and all offices except Commodore UK (which was the only part of the group not to be placed in receivership) were closed down. The new owner is the German PC clone manufacturer Escom, better known for its high street computer supplies stores.

● L.A.P.D. (01773 605010/761944) has recently signed an exclusive deal with well known American Shareware author Dave Munsie. As a result, you can register Dave's games in the UK rather than having to send direct to the States. Pre-registered versions of all new Shareware releases can be purchased directly from L.A.P.D. or you can order the unregistered versions from your usual PDL and then register with L.A.P.D. Dave's latest releases Frantick, Asterodia and G_Shell are already available with three new titles, Square Off, Choplifter 95 and Megaspaces expected soon.

● Specialist Magazines Ltd, publisher of Atari World, is set to release a book on BASIC programming for the ST. The publication has been written by Ofir Gal and includes all of his ST Review tutorials and associated listings. Due for release this summer, price has yet to be confirmed.

● Gadgets by Small, manufacturer of Spectre GCR, the Mac emulator for the ST, is no longer in business. Former proprietor Dave Small recently announced on the Internet that the company closed down in November 1994.

News

Atari loses Armor

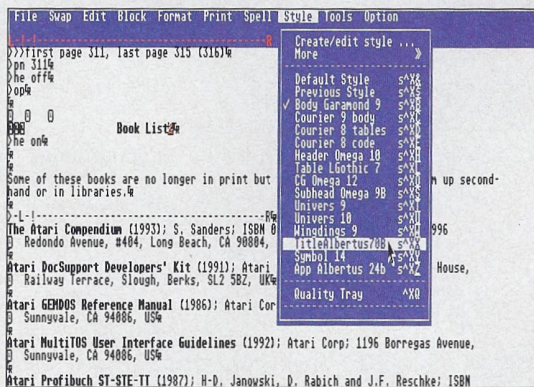
Protext support to be offered by Compo.

In a shock move, Arnor Ltd, the company behind the highly successful Protext

word processor, has gone into voluntary receivership. Although the future of the company is currently uncertain, the outlook for existing and future Protext owners looks far more promising. Compo Software (01487 773582) has announced that it will be supporting Protext in the UK and that it currently has stocks

of the ST, Amiga and PC versions of Protext v6.6 as well as upgrade packs for users of earlier versions. In addition, it is offering free technical support to existing Arnor customers via the Compo

Helpline (01487 773521, Monday to Friday, 3pm to 8pm) and CIX BBS, where the address is:



Protext – the Atari's number one text cruncher is now supported by Compo.

compo@cix.compulink.co.uk.

Compo boss Neal O'nions said: "Compo is very pleased to offer

support for Protext. We are committed to the Atari market and see Protext as complementary to our product range. We already sell That's Write which we see as the best font-based word processor. Now Protext gives us a product

that specialises in printer font support and fast editing of large documents". The obvious question on everyone's lips is whether or not this signals a halt to future development of Protext. When we put this question to Neal, he replied: "We are expecting further maintenance releases and are optimistic that

there will be upgrades to Protext in the future". Protext v6.6 is available from Compo at £74.95. Users can upgrade from v6.5 for £15, v6.0 for £29.95 and from earlier versions for £39.95.

New Falcon Family

An entire new range of Falcons is about to be announced by C-Lab, the company responsible for the C-Lab Falcon Mk II. Although the specifications, names and model numbers of all but one of these was unavailable as we went to print, we can confirm that there will be several different models ranging in price from £899 to £1,700. The £899 model will

be called the C-Lab Falcon Mk I and is identical to the Mk II machine except

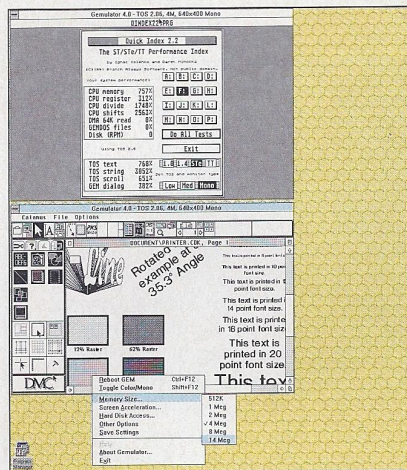


C-Lab Falcon – £899 model heads new range.

that it has 4Mb of memory and no hard disk. It comes with all the modifications to the sound hardware present in the Mk II and can be upgraded to full Mk II specification. The new machines will make their debut at this month's Spotlight '95 Show.

There have been several mentions of a low-cost home computer version of the C-Lab Falcon in recent months. When we spoke to Paul Wiffen of Digital Awareness (UK distributors of the C-Lab Falcon), he confirmed that this remains a real possibility, although not in the shape or form that had originally been envisaged. Contrary to earlier reports, the DSP will be included in such a machine and economies will be made in other areas of the design instead. He was unable to give any indications as to the price, specifications or release date.

More speed from FaST Club



The FaST Club (0115 945 5250) has just announced upgrades to two of its top selling products plus the forthcoming release of three new packages, one of which (Xchange) is reviewed in this issue. Two further applications are presently in the pipeline. The upgraded packages are Gemulator and Imagecopy, both of which are expected within a matter of weeks.

PC emulated

Gemulator 4 is a MegaSTe emulator for the PC; the latest version is a software-only upgrade and runs under either Windows 3.1 or the soon to be released Windows 95. As well as the obvious speed benefits over the old DOS-based version, Gemulator 4 lets you run your ST applications at resolutions of up to 1024 x 768 pixels using the Windows screen drivers. A feature of Gemulator 4 that many Atari owners will find appealing is its ability to run both DOS and Windows programs directly from the Atari Desktop, which can also perform file copy and delete operations so bypassing the Windows File Manager! Gemulator 4 supports up to 14Mb of ST memory and gives full access to the PC's hard drives, removable media and CD-ROMs. MIDI and joystick support are incorporated and you can

Imagecopy 4
– the best really
has got better...

Gemulator – version 4 offers MegaSTe performance from a '486 or TT speed from a Pentium.

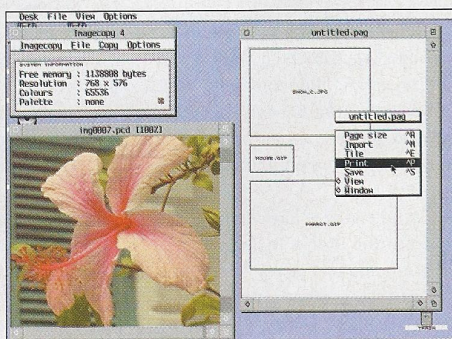
address multiple modem and printer ports.

Hardware-wise, Gemulator 4 requires a '486 or Pentium-based PC or compatible. It runs ST/e programs at the speed of a MegaSTe on a '486 running at 66MHz; a 90MHz Pentium emulates a 32MHz TT at full speed. It is due for release with

in the next few weeks and is expected to cost £139.95 including the TOS 2.06 ROMs. If you buy Gemulator 3 in the interim, you will be entitled to a free software upgrade when version 4 becomes available.

New features

It is always difficult to see how Imagecopy can possibly be bettered, but improved it has been and Imagecopy 4 will be available as you read this – and reviewed next month. The most important new feature is the inclusion of a page layout option which is similar to page preview in many DTP and word processing packages. It shows you a screen representation of what will be printed out, without wasting valuable time and paper. Imagecopy 4's implementation allows you to move/resize text and graphics with the mouse or by typing in the required coordinates for exact positioning of objects. You can now design a page in your DTP package, then overprint the graphics using Imagecopy, often resulting in a superior end result, especially with colour images. Page layouts may be saved to disk for future use.



Imagecopy 4 costs £34.95 or £39.95 for the Photo CD-enhanced version. It is supplied with Textstyle so that you can incorporate text into your pages. Upgrades are available by returning disk 1 of your current version, along with the PCD disk if appropriate, and the relevant upgrade fee (v1 £24.95; v1.5 £22.95; v2 £17.95; v3.0 £7.95; v3.5 £6.95). No extra charge is made for upgrading the CD version over that for the regular version. If you are upgrading Imagecopy and would like a copy of Textstyle, just add £5 to the upgrade fee.

Latest additions

EEC and Strip Cartoon are the latest releases from IEBE Concept in France and will be distributed in the UK by FaST Club. EEC is an

interactive database of facts and figures about the EEC and will cost £6.95. It is expected to be ready towards the end of July. Strip Cartoon is a paint program designed solely for the purpose of designing strip cartoons. It promises "dozens of innovative features" designed to make "creating your own cartoons a doddle". Strip Cartoon will cost £14.95 and will be ready in the next few weeks.

Other releases in the pipeline include Spectral Toolkit, a sound oscilloscope for the Falcon, and Adventure Game Construction Kit, described as "the easy way to create powerful adventure games". More information on these soon. Finally, FaST Club has announced a price cut in the cost of 3D Calc Plus from £24.95 to £14.95.

TALES FROM THE INTERNET

Good news for Web wanderers – Graeme Rutt brings you the word...

Net-hungry Atarians, who until now have been starved of realistic ways to wander the Web, will soon have two choices of main course to satisfy their appetites. All you need is a standard Internet connection like Demon or Cityscape and you'll have some sumptuous Web dishes on your next menu.

The first is provided by that champion among men, David Nash. David is the man responsible for NOS, the first package to allow Atari owners to link up to the 'Net. He has recently been working hard to bring us a version of NOS that includes Lynx, the text-based Web browser. According to David, it's well into the beta stage of development, is working well and just needs some cosmetic surgery to the interface (*don't we all... Ed*).

While text browsing isn't the ultimate thrill in the Web experience, at least Atarians will be able to do it via a cheap dial-up port. When it becomes available, you'll be able to FTP it from ftp.demon.co.uk/pub/atari/.

If you aspire to graphical browsing then the only answer is Chimera, and to run that you need to turn your Atari into a UNIX computer running a graphical shell known as X-Windows. This has always been a pig to set up and totally impossible for all but the most experienced users. Enter an Atari user group in Toronto which has packaged together all the necessary files to get Chimera up, running and connected on any 4Mb Atari. As well as the bare files they've also provided a handy installation program to make the set-up as painless as possible. The package is still in beta but should be available in the near future – more on this soon.

And that is just about it. Except to say that when researching this piece I came across a graphical front-end for NOS (also from ftp.demon.co.uk). I'll let you know more about it in the next issue...

SNIPPETS

● Daron Brewood, coordinator of the NeST BBS system, has recently implemented an email gateway between NeST and the Internet. It allows any NeST user who has pre-registered with the gateway database to send and receive email to other users on the Internet and on Usenet newsgroups. The eventual aim is for all NeST users to be able to send and receive Internet email by using the email address user-name@nest.demon.co.uk, giving them Internet email access from their local NeST BBS. For further details contact your local NeST sysop or email Daron Brewood from any NeST BBS on 90:100/106.0.

● Branch Always Software, manufacturer of the Gemulator, now has its own World Wide Web site. It contains all of the latest news on PC Xformer v3.0a (Atari 8-bit emulator for the PC) and Gemulator 4 as well as screenshots and free software for you to download. Branch Always Software's home page is on <http://www.halcyon.com/brasoft/> or you can send email direct to brasoft@halcyon.com.

● Top Byte Software (01622 763056), the commercial arm of Power PD, has taken over the distribution of forthcoming art tutorial package Grafix, which was originally to have been sold direct through Silly Software. Grafix should be ready in the next few weeks, retailing at £19.95.

● The Roland MT-32 editor Explorer 32, previously published by C-Lab, has recently been re-released as shareware by the author. The shareware version fixes a number of problems in the commercial version, has had the copy protection removed and is now hard disk installable. Available now from your usual PDL or ftp site.

● For those of you who have expressed concern over our Paris Atari Show pictures in the last issue, let us make it clear that Vic Lennard does not have a head that looks like an exploding mushroom, and that Gasteiner are not "well dodgy geezers"!

JAGUAR UPDATE



The Electronic Entertainment Expo – the single biggest event in in the American console calendar – took place in Los Angeles last month. It was an opportunity for all of the major industry players to show their plans for the run-up to Christmas and Jag-fans were in no way disappointed.

Naturally, both Sega and Sony had a strong presence on the floor, but Atari did manage to muster a respectable display. The

Freelancer 2120 is just one of the many Jaguar CD games in development.

virtual reality headset was the main attraction, and two units were in active service for the duration of the show. The hardware is 99% complete and the whole set-up should be on sale in time for Christmas.

With any luck, two games will be available at the time of release – Zone

Hunter and Missile Command 3D.

Plenty of Jaguar CD titles were also on display. Some were clearly in the early stages of development, but Battlemorph, Highlander and White Men Can't Jump were obviously nearing completion. There is still no sign of the CD unit itself (in the US or UK) and the latest reports suggest that August is the official release date. It's likely that there will be a total of three CDs included in the box – Vid-Grid, the Tempest soundtrack, and one other game; let's hope it's a good one!

On the cartridge front, the all-new Fight For Life (complete with improved shading and texture-mapping, managed to put in an appearance at the show, and the



Super Burnout will be racing onto your screen real soon now...

gameplay is much improved over early beta versions. However, it will be a few weeks until this one hits the shelves, so you'll just have to console yourself with Super Burnout, Rayman and Hover Strike in the meantime...

Atari on a downer

Atari has announced its financial results for the first quarter of 1995. Surprisingly perhaps, given the technological lead the Jaguar has enjoyed over its rivals until now, net sales fell from US\$8.1 million to US\$4.9 million and there was a trading loss of \$4.4 million compared to a \$0.9 million loss for the same period in 1994.

Atari is still moving through a period of repositioning and these figures are no different to their predictions. The financial turnaround is expected in the last quarter with the pre-Christmas build-up.

Atari changed the Jaguar price point in the States to \$159 towards the end of the first quarter and the company hopes that increased sales from this move

will result in considerably higher sales figures in the second quarter. The new price is intended to attract existing 16-bit console owners who want to upgrade but can't afford the newer recently launched super-consoles like the up-and-coming Sony Playstation and Sega Saturn.

Atari is currently focusing on getting new games out of the door and predict it will have reached 100 titles by the end of the year. Many of these will probably be on CD-ROM.

ZERO-5



Caspian Software Ltd 0181 880 4450

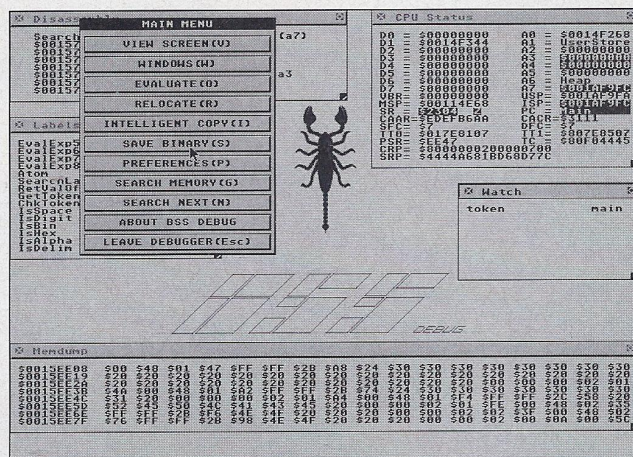
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<http://exxos.www.idnet.com/IMPULSE/atan/last>

Giant Moves



Titan Designs (0121 693 6669) is now shipping BSS Debug, the Falcon-specific programming utility. Written by Black Scorpion software,

BSS Debug – the Falcon-specific debugger is now available.

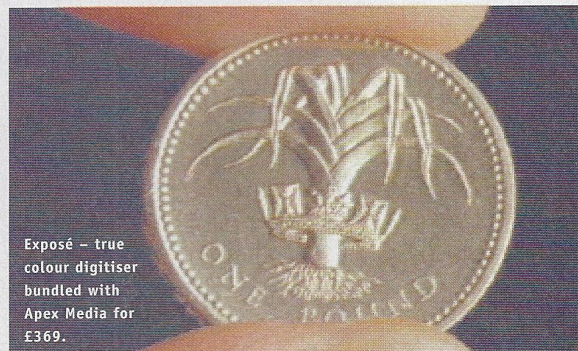
the program was used in the development of the best-selling graphics package, Apex Media.

Price is £39.95 – full review next month.

Exposé, the true colour, real-time digitiser for the Falcon, is expected to be ready by the end of June. The RGB Splitter now has a higher specification that previously believed, including full control over brightness, contrast and colour, compatibility with PAL, NTSC, composite and S-Video inputs, and adjustment for sync and NTSC hue. Included in the package is FalCAM,

a desk accessory for viewing video from within GEM-based programs, FalCAM Tripod, which 24-bit high resolution (768 by 640 pixels) grabs, and Videobox, a demonstration program that n

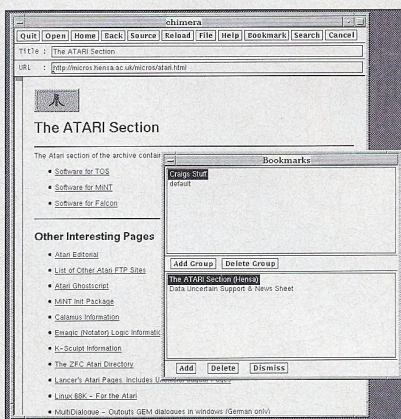
live video onto a spinning cube. Bundled with an enhanced version of Apex Media, the price is £369, a saving of £50. Existing Apex owners can get Exposé 1 for £249. Contact Titan for more details.



Exposé – true colour digitiser bundled with Apex Media for £369.

The CyberSTrider files

Denesh Bhabuta brings you the latest on the HENSA public domain front...



The Chimera WWW browser – now on an Atari near you!

The Atari PD scene is thriving. Hardly a day goes by without some sort of program update or the arrival of new software. Lots of programs have landed on my desktop over the past month and mentioning all of them would take up quite a few pages! So on with the show...

Freedom version 1.13, incorporates many enhancements over the version reviewed last month. It is faster and reserves memory for itself using a more durable method. The interface has been enhanced too, giving you more options to configure to your liking.

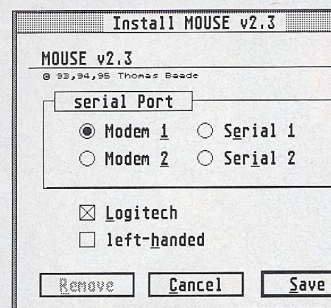
ST-Guide is fast becoming the *de facto* standard for hypertext documentation, and it's now at version 1.3. This new release adds a long list of features, including an autolocator and support for colour images.

Ze Organiser, reviewed last month, has already gone through three updates! However, these have mainly been bug fixes and changes to the interface. And animation lovers will be happy to

hear of the arrival of a QuickTime movie player. QuickTime is the Apple Mac standard for freely available digitised movies. QT-Player works quite well, with sound support to be implemented soon.

PC mice are generally better than the Atari offering – and often cheaper. Mouse is a utility that allows you to use a serial mouse on your Atari. You can also use the middle mouse button.

MagiC users can now have WinX type features with a program called Window Commander. It gives you enhanced window handling and configurable

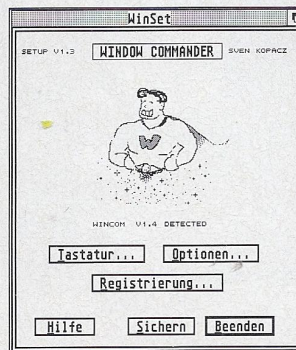


Mouse lets you use both a PC serial mouse and Atari mouse together.

keyboard shortcuts. Good news from Sweden too. A plug-and-GEM-based WWW browser is being developed by a shareware programmer under the Firestorm label. Watch this space.

And finally, a set of installation disks to set up a graphic WWW browser has been compiled. The installation takes a few minutes, and installs the necessary software. Lots of memory and disk space – not mention patience – is needed. Full report in Public Arena next month.

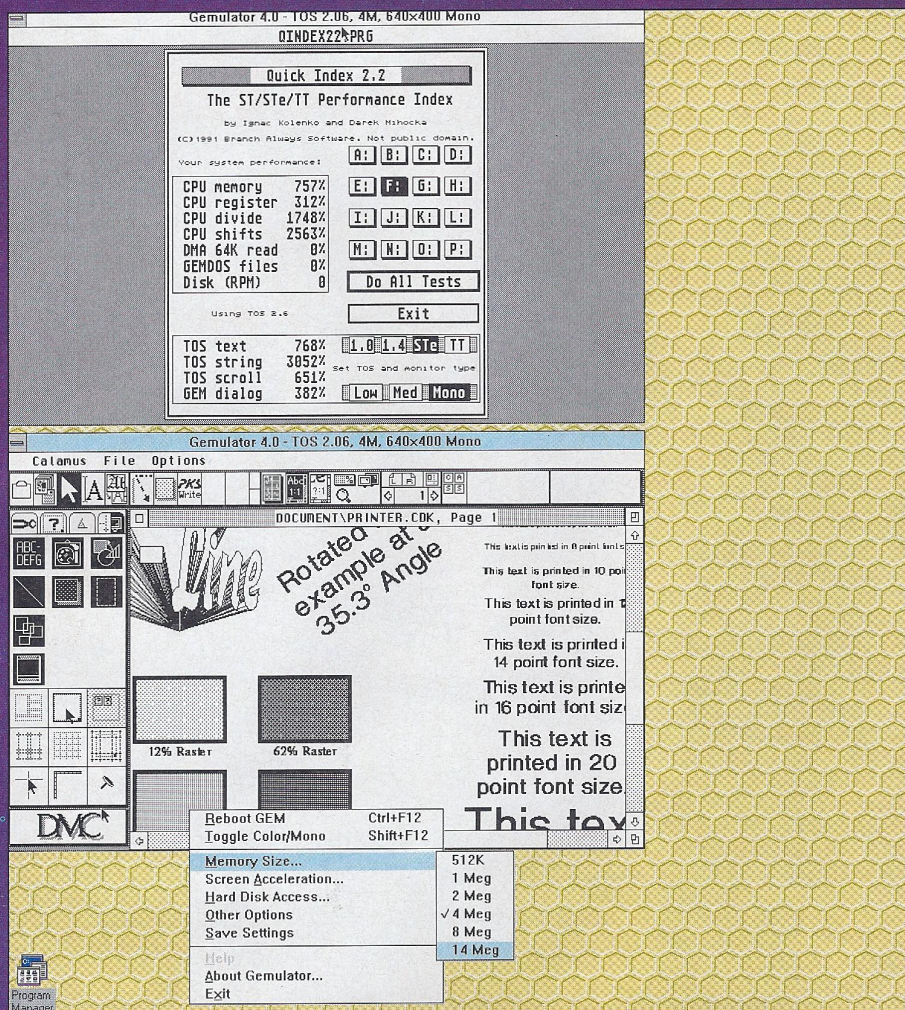
An English version of Window Commander should be available by the time you read this...



NEW *Gemulator 4.0*

The Atari Mega ST/STE Emulator For Windows

Question: Can windows run existing Atari ST, Mega ST, and STE software? **Answer:** Of course it can!



Introducing *Gemulator 4.0*, the Atari ST/STE emulator designed specifically for use on Windows. It turns your PC into an Atari clone that's on par with any high end Mega ST or Atari TT030 computer - for a fraction of the price. *Gemulator 4.0* now has CD-ROM support, higher VGA and Monitorm graphics resolutions, MIDI support, more ST memory, joysticks, multiple modem and printer support, easy menu based configuration, can read and write Atari files to any hard disk partition on your PC, (Double space and Stacker drives too), and more). Grab clip art from your PC's CD-ROM drive and paste it into your Atari programs. Run multiple Atari desktops at the same time, each running a different program and in different screen resolutions!

As this Windows 95 screen shows, you too can run your Atari ST and Mega ST/STE programs side-by-side with your MS-DOS and Windows programs. Why wait for Windows versions of your favourite Atari programs (which may or may not ever appear) when *Gemulator 4.0* runs them now! Our users have been running Pagestream, Calamus SL, and all their favourite Atari programs on their PC's since 1992.

Planning to upgrade your existing Atari ST, Mega ST/STE, Falcon, or tt030? In a word - DON'T! If you consider the cost of a TOS 2.05 upgrade (\$139), Monitorm monitor (\$500), 8

meg of ST RAM (\$649), CD-ROM drive (\$249), hard disk upgrade (\$400), and 1.44M floppy (£100), you've already spent more money than the cost of a new pentium computer with *Gemulator 4.0* - and you still can't run Windows software!

Gemulator 4.0 is a card that plugs into your PC (using an 8-or16-bit ISA slot). It runs on any 488 or Pentium with at least 8 megabytes of RAM running either Windows 31, OS/2 Warp, or Windows 95. A 486/66 computer emulates at about Mega STE speed, while a 90 Mhz Pentium emulates the full speed of a 32 Mhz TT030. Cool, huh?

To order *Gemulator 4.0*, contact your favourite Atari dealer or order directly from us at:

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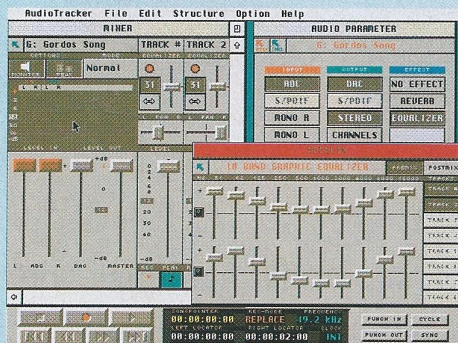
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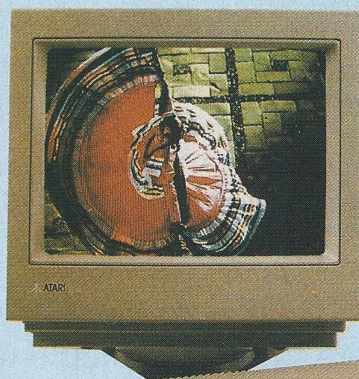
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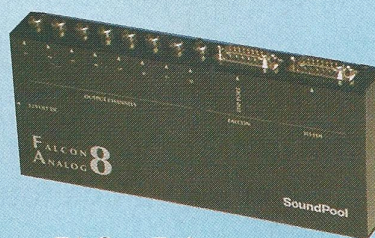
Best Hard Drive 1994



1Gb, 1.7Gb, 4.3Gb
MiniS Hard Drives

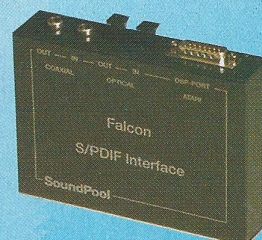


Audio Tracker Wave-form Editor



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8 Audio Outputs
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Digital Interface
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Audio Tracker

8 track digital recording for the Falcon 030 with only 4Mb of memory! Audio Tracker uses internal IDE drives, external SCSI drives and is fully FDI and FA8 compatible. The Recorder features MTC and audio sync, punch in/out, pre-roll, locators, song pointers, digital mixdown, sample rate conversion and audio file import/export for AIF and AVR files.

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All this and more for **only £159.00** inc. VAT.

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NVDI v3.0 including 8 Speedo fonts £49.95
100 TrueType fonts on disk £39.95
500 TrueType fonts on CD-Rom £49.95

For update pricing, please phone.

NVDI v2.5 will continue to sell for only £29.95
Best Software Upgrade 1993 & 94 - ST Review.

MagiC



"If you want a multitasking system that works simply and reliably, then MagiC is for you."
ST Review, June 1994.

MagiC is a full TOS replacement; a very fast disk filing system; has accelerated serial, MIDI and printing routines and is, of course, a true pre-emptive multitasking system. MagiC Desk, a replacement Desktop, and a powerful command shell are included. MagiC runs on ST, Mega and TT computers with 512Kb, but 2Mb is recommended for a useful working system. The Falcon version is expected to be available by July 1995.

"It's like running an accelerator and getting the multitasking thrown in for free."

ST User, February 1994

MagiC (RRP £69.95) Intro Price £59.95
MagiC and Ease £79.95
MagiC and Kobold £79.95
MagiC, Ease and Kobold £119.95

NB: Excellent with Calamus SL. Compatible with Notator Logic, but not with Notator SL and not yet compatible with Cubase.

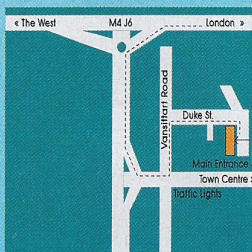
PAK68/3



Turn your computer into a 32bit system with the PAK68/3 and a 68030 processor. The 32MHz clock, 32bit wide TOS and a 32Kbyte cache will accelerate your system by 775% (Gembench 3.10). This is faster than the Falcon and the TT! Clock speeds of 40 and 50Mhz are possible. The use of recycled processors makes this upgrade very affordable without sacrificing reliability. A 32bit 128Mb FastRam board and a 24bit colour graphics card are now available.

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PAK68/3, 33MHz CPU and TOS 3.06 £359.00
PAK68/3, 33MHz CPU & FPU and TOS3.06 £399.00

Please telephone to discuss your requirements.

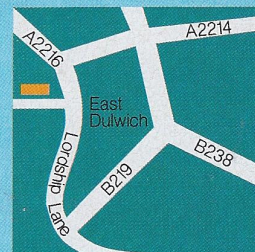


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Kobold



This High Speed File Manager gives unbelievable speed. Copies 1000 files (10Mb) in 45sec (GEMDOS 5:35min!). Use Kobold for backing up; formatting floppies (DD,HD,ED); move, copy and delete files; use the learn function to automate repetitive jobs. Ease calls Kobold automatically for all desktop file and floppy operations.

Kobold 2.5 (RRP £59.95)

ATARI WORLD LAUNCH OFFER
£39.95

Ease



ST FORMAT Awarded 97%

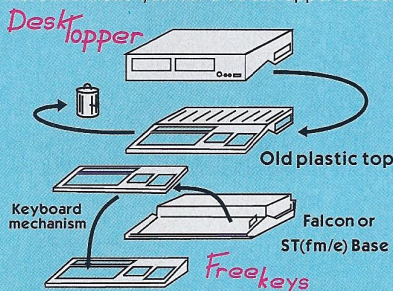
Use your Atari with EASE. Replace the old Atari Desktop. This program could not be more appropriately named. The right click replaces the double click. Iconize windows for instant access to groups of files. Ease is aware of multitasking and comes with a sophisticated Colour Icon Editor. Works on any ST, all TOS versions, and with any display and graphic card.

Ease (RRP £49.95)

ATARI WORLD LAUNCH OFFER
£39.95

DeskTopper

No space for accelerators, TOS boards, hard disks, graphic cards and PC emulators? Convert your Atari into a desktop computer with more space. Simply replace your plastic top with the DeskTopper and fit your keyboard into FreeKeys (or replace with a PC Keyboard using AT-Key). For more information, ask for the DeskTopper leaflet.



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FreeKeys £39.95
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AT-Key £49.95
Cherry Keyboard £29.95
DeskTopper & FreeKeys £99.95

T28 & T28e



Tired of waiting for your computer? Then speed it up with a 28Mhz processor. The T28 accelerator is now available for STe and STFM computers. Compatible with Cubase and Notator Logic.

Available Now: The MultiBoard, a TOS2.06 IDE and graphic adaptor with 2-8Mb memory expansion.
T28 - with 64Kb cache for STFM/MegaST £179.00
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MultiBoard £149.00
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SCSI Drives



Best Hard Drive 1994 - ST Review Christmas '94
MiniS hard drives are full SCSI systems, hardware compatible with all Atari, Amiga, Mac and PC computers. They are unrivalled in size, low noise, speed and style. The ST(FM/e) version comes with The Translator. Please add £20.00 if you prefer the ICD Link II adaptor. HD Driver will be included FREE (except ICD Link systems).

Gold Award of 93% - ST Format Feb. '94

Essential Buy of 92% - ST Review Christmas '93

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★ 2 Year Warranty ★ Small (2.5x6x8.5") (WxHxD)
★ Dual SCSI Port ★ Device Number Switch

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360Mb Quantum	£289.00	£329.00
540Mb Quantum	£339.00	£379.00
730Mb Quantum	£389.00	£429.00
1Gb Micropolis	£599.00	£639.00
1.7GbAV Micropolis	£899.00	
2GbAV Micropolis	£1195.00	
4.3GbAV Micropolis	£1995.00	

CD-Roms



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for the ST(FM/e) with Translator £339.00

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Reader Disk

A cover disk increases the price of a mag yet many readers never even look the software! There has to be a better solution – the Reader Disk...

The optional Reader Disk directly supports the software covered in the magazine and creates a link between the reader and the software author. *Atari World* supports and encourages shareware authors – in return you can do your bit by supporting them. The *Atari World* team is in constant

contact with the best Atari programmers around – we keep your finger on the pulse and obtain the very latest versions, often exclusive to *Atari World*!

A single Reader Disk costs £2.50 inclusive of post and packing – the same price as a typical PD disk. Some issues will offer two

or more Reader Disks with each additional disk costing £1. For example, a three disk issue would cost £4.50 inclusive of post and packing.

So the choice is yours but don't forget to check out the special subscriber deals on p 38 and 39.

This month's Reader Disk

Everything on this month's Reader Disk is covered inside the magazine. The three character folder extension points you to the relevant page in the magazine. For example FASTCOPY.55 means Fastcopy is covered on page 55.

To make it easy to back up your Reader Disks a copy of AWBAKUP.TOS, specially programmed by Ofir Gal, is included each month. Simply run AWBAKUP.TOS and follow the on-screen instructions; the program even formats the disk for you. We recommend you always store your original disks in a safe place and don't use AWBAKUP.TOS for any other purpose.

Thought 2 demo (p21) Commercial • Titan Designs

An "ideas processor" capable of managing any text-based project. Flow chart style graphical links can be used to manipulate your document. The contents of this folder are archived. To extract the archive, use AWBAKUP.TOS to make a copy of the Reader Disk. On the copy delete everything apart from THGTDemo.TOS. Double click on THGTDemo.TOS to extract the archive and then delete THGTDemo.TOS.

GD-Flag v1.15 (p79) Freeware • Gregor Duchalski

Rename auto and accessory programs on the fly with options to set the write

protect, fast load, Malloc, Fast RAM and MultiTOS flags in program headers.

Idealist v3.6 (p89) Exclusive • Shareware • Christoph Bartholme

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Fastcopy III(p55) Freeware • Martin Backschat

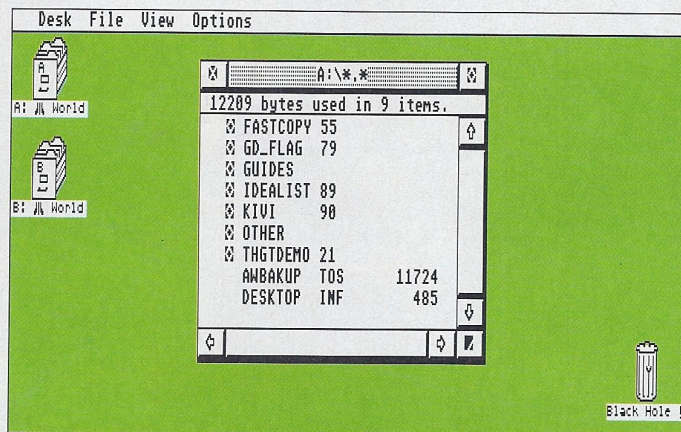
A classic disk formatter and copier capable of handling no standard disk formats. Includes a delightfully intuitive interface.

Kivi v1.37a (p90) Exclusive • Shareware • Arto Jalkanen

Collect and post your BBS messages using this QWK format off line reader and save a fortune in telephone bills, a must for comms enthusiasts!

Atari World Profile Exclusive • Joe Connor

Database for Issue 2 in ST-Guide format. Combines with the contents of last month's Guides folder to extend the database to cover Issues 1 and 2. To maintain your database you may prefer to create a separate database disk which can be easily extended each month. Use AWBAKUP.TOS to make a copy of the Reader disk. On the copy delete everything apart from the Guide folder. Each month copy the contents of the latest Reader Disk Guides folder to the Guides folder on your database disk. Some files will be overwritten; this is normal. Optionally add a copy of ST-GUIDE.ACC and ST-GUIDE.INF to create a stand-alone database boot disk.



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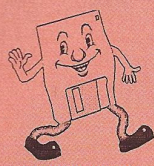
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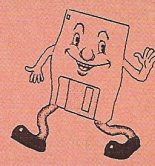
Should you require technical help, call the *Atari World* disk helpline (01206 852602) on any Wednesday evening between 7pm and 9.30pm. Please don't call outside these hours as we won't be able to help you.



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COLOUR OR MONO – Disk numbers ending 'C' i.e. BUD.10C are for COLOUR MONITORS OR TV'S ONLY. Disk numbers ending 'M' eg: ART.63M are for MONO MONITORS ONLY.

RGB or VGA – Indicates the type of monitor required to run a specific Falcon program.

ART & GRAPHICS

ART.4635C ECLIPSE – The very best in image processing on an ST/E! Simply packed with features. Also on disk are a number of fast fractal generators.

ART.4772 ARROW 24 – An easy to use GEM based modelling and ray tracing package. Leaves POV standing! NOTE: Program and docs in German. Needs 1 Meg.

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FLOPPYWARE – As Priced.

These disks are of commercial quality despite their low price and offer excellent value for money.

FWG.01C KEYMATHS by Ian Holden – Six educational games covering key stage 1 of the National Curriculum. £3.00

FWG.03 ASSEMBLER 2000 – The full commercial release of Chris Skellern's highly acclaimed 68000 assembler package for the ST. £3.00

FWG.05C CASTLE CAPERS by Paul Abratis – An amazing platform game set in a haunted house. Can you survive the 50 levels? Needs 1 Meg. £3.00

FWG.06M COLOUR TO MONO CONVERTER by Chris Skellern – Uses a choice of 16 algorithms to convert colour pictures to mono for Desktop Publishing. £3.00

FWG.07C DARKLYTE 2 by Howard Tilley – A Sci-Fi space action/adventure/strategy game. Incredible graphics and sound effects. Needs 1 Meg. £3.00

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FWP.19C Sprite Works by OCL – 38 new commands for GFA Basic v3.x and lots of GFA source for performing marvellous tricks too! If that's not enough, you get a powerful art package with which to design your sprites. A GFA programmer's delight! Comes on two disks. £7.00

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FNT.4752, FNT.4753, FNT.4754, FNT.4755, FNT.4756, FNT.4757 – A total of 179 new Calamus fonts spread over SIX disks! £2.00 per disk.

We have around fifty other disks full of GEM, Signum, Calamus, PageStream and Degas fonts. Check out full catalogue for a listings.

GAMES

GAM.4614C War Of The Worlds 3D – The first (and arguably the best) game to be created using v2 of the 3D Construction Kit. **GAM.4767C STARBALL** – A futuristic Pinball game with great sound, graphics and several sub-games. The best Shareware game around!

GAM.4967C CYBERDROME – The Cyberdrome is a 3D world where you react with intelligent 'artificial life' programs using virtual reality simulators. You pilot a hoverjet simulator in this single mission version of a larger game. Needs 1 Meg.

GAM.4968C ALIENS – A role playing game where you pit your wits (and your army) against the ST. Players can shoot and throw grenades as they attempt to avoid the aliens and reach the level exits.

GAM.4969C JIGGSY – A cross between a jigsaw and a sliding puzzle game but with a time limit. An addictive game that is more challenging than it first appears.

GAM.4971C ASTROPANIC '94 – A re-write of the good old fashioned Space Invaders type shoot 'em up. Runs on any machine but uses extra features of the STE, TT and Falcon. Addictive fun for all ages. Needs 1 Meg.

MUSIC

MID.11 Accompanist – Powerful 16 voice MIDI sequencer crammed with semi-professional features. Includes lots of Midi files on disk. **MID.3108 ALCHEMIE JUNIOR** – Multi-window, GEM based MIDI sequencer which is a serious rival to many commercial programs. Mono only. Needs 1 Meg.

MID.3354M M1 WORKSTATION – Editor/librarian for Korg M1 and MTR synths with 32 track sequencer and drum editor. Needs 1 Meg. **MID.4532M Roland D110 Manager** – Professional quality editor and librarian for the Roland D110 module. Designed for the D5, should work with other D-series synths.

MID.4980 C-Beat – An ACC which displays MIDI notes. Accurate to 1/32nd of a note. Delay Calculator – Calculates the delay times in microseconds according to the BPM. Groove Analog Sequencer Simulator – replicates the effects of early analog sequencers using modern MIDI devices. Several other MIDI programs also on disk.

PROGRAMMING

LAN.4608 OMEN SOFTWARE DEVELOPMENT KIT – All you need to write your own OMEn (cross platform multi-tasking) software or make existing programs compatible. Includes an assembler, a C library, an icon creator, a sample converter and lots of assembler source. Requires OMEn on UTL.4607.

LAN.4638 CONTROL EXTENSION – Adds 34 new commands to STOS Basic. Includes a replacement sprite engine which supports STE hardware scrolling. Many of the commands are STE specific. **LAN.4839 C-Scape** – An integrated front end for Sozobon C (not included). Desert Drain – A powerful 680xx disassembler (program and docs in French). Various other useful bits of C source are also on disk.

LAN.5055 STOS CYBER, GBP & EXTRA EXTENSIONS – Three top extensions to STOS Basic which no self respecting STOSSER dare be without! Cyber allows the use of SEQ annotations in STOS, Extra adds 57 new utility type commands and GBP unpacks compressed files and MUCH, MUCH MORE....

UTILITIES

We have thousands of utility programs spread over several hundred disks. A comprehensive description of every program is given in our catalogue disk.

UTL.4766 FLOPPYSHOP CPX COLLECTION 2 – Another 30 CPX files for use with XControl. CPX COLLECTION 1 still available (UTL.3879).

UTL.4945 ATARI WORK TEMPLATES – A collection of useful templates (lots of them!), complete with docs, for use with Atari Works. **UTL.4955 LOTTERY FEVER!** – A collection of four random number generation programs designed to help you win those elusive millions! Another program lets you check up to 44 sets of numbers in seconds.

UTL.5001 HP Support Disk 3 – Yet more printer drivers and other useful utilities for Hewlett Packard Deskjet & Laserjet printers. Support disks 1 (UTL.405) and 2 (UTL.4536) still available.

UTL.5036 PLANTER DATABASE – A comprehensive database of almost 1000 common garden plants in Superbase Pro format. NOTE: You need Superbase Professional in order to use this disk. Needs 1 Meg.

UTL.5058 The National Lottery & Lottery Companion 3 – Two commercial quality programs which intelligently help you select winning numbers based on past performance. Not to be missed! **S3-ST** – Powerful software to transfer data between a Psion Series 3 organiser and your ST.

FALCON 030 SECTION

We were the first to support the Falcon and now have over 400 HD disks in our library. The Falcon catalogue costs £1 on its own or just 50p if ordered with other software. Falcon disks cost £2.50 each unless otherwise stated.

ART

F4786 ARROW 24 – An easy to use GEM based modelling and ray tracing package. Leaves POV standing! NOTE: Program and docs in German. **MPEG PLAY** – Plays MPEG real-time movie files. **TGA VIEW** – Double click TGA files to display them. **FLI_TC32** – Plays FLI animations from True Colour mode. **DGRAPH** – An early version of a new art package. **RGB ONLY**. **EASY POV** – A nice easy to use GEM shell for POV Raytrace.

F4787 BV3 from Binaris – A VERY fast GIF and TGA file viewer and converter using the Easy GEM interface. GIFs load in seconds from floppy! Lots of pictures supplied on disk.

F4869 ECLIPSE – A powerful image processing package with a good range of features and extensive file support. Also on disk are two very fast fractal generators, two MPEG animation players, two JPEG decoders, a very fast GIF viewer and Indy Paint – a graphics package.

DEMOS

F4850, F4851, F4852 MPEG ANIMATIONS – A collection of 11 True Colour animated films complete with player program. £2.50 per disk.

S-F4855 & S-F4856 124 BEERS LATER by TRIO – An impressive guitar track kicks this one off, followed by a range of great graphic effects & music. **RGB ONLY**. Needs 4 Meg and a hard drive. £4.50 for the two disk set.

F4857 ARE YOU EXPERIENCED by EKO – An impressive animation of a starwars type battle, followed by great special effects. **RGB ONLY**. Needs 4 Meg.

F4859 MOSTLY HARMLESS by MJJ Prod – One of the best demos on the Falcon. Lots of special effects. Even the greetings are impressive! **RGB ONLY**. Needs 4 Meg.

F4861 HIGHWAY STAR DEMO by PLPL – Concentrates on the use of a new breath-taking graphic effect using beams of light, fractals and shaded bobs. You just must see this one! **RGB ONLY**. Needs 4 Meg.

F5023 LAMER BRAIN by The Megabusters – A great debut for The Megabusters which has a number of interesting effects. Point Of Inflection – Concentrates on a new demo effect and makes good use of the DSP & CODEC chips. Both demos are **RGB ONLY** and need 4 Meg.

GAMES

F4579 BLACK HOLE – Arcade action with lots of digitised sound. Can you find the coins on each level that hold the key to the next? Watch out for the time bomb, though! **VGA**, needs 4 Meg.

F4779C STARBALL – A futuristic Pinball game with great sound, graphics and several sub-games. The HD version features several more digitised tracks than the ST version and is Falcon enhanced.

F4780C NoBI BRAINSTORM – Guide Alfred the snake around numerous levels collecting all the Yin Yang symbols. Great Fun! Needs 4 Meg. **NoBI RACING** – Another Alfred the snake game! Lots more puzzles and traps and two players can take part. Needs 4 Meg. **YUKON** – The best game of patience you've ever played!

F5020 ASTROPANIC '94 – A re-write of the good old fashioned Space Invaders type shoot 'em up. Needs 4 Meg. **WALTZ** – A bat and ball type game, similar to Arkanoid. Nanjing – A two dimensional Chinese tile game which uses six different sets of tiles.

F5022 SWITCH – Having escaped from the dungeon, you must find your way through a labyrinth operated by a system of switches and locks. Frustratingly addictive and immensely enjoyable. **RGB ONLY**, needs 4 Meg.

PROGRAMMING

F4784 JPEG4SRC – The complete C source and docs to the latest revision of the JPEG file format. **FALCON LIBRARY** – An impressive collection of well documented assembler sub-routines (Devpac 3 format) for use in your own programs. **WIN LIB PRO** – C source for a slick new 3D Desktop. Still under development but plenty of docs and source.

F4724 EASY GEM LIBRARY – Everything you need to add an impressive futuristic front end to your own GEM programs. Includes full sources in Pure C format.

UTILITIES

F4727 HPLJ4L – Gives you full control over all the features of the HP LASERJET 4L from within an easy to use GEM program. Lots of downloadable fonts included.

F4782 ASSIGN-ED, BMAPFIX2, SET TIME, CPXSPY, DOP-PELCLICK, EGALD, RB BOB'S ICON EDITOR, RSC_XPAND, ICON PAGER, WICOPAGE, ST GUIDE, E_DICT, POWER MOUSE, TERMINAL BLANKER, TOS 4 FIX, VERICARD, WHATIS.

F4862 FLOPPYSHOP CPX COLLECTION – 75 CPX files for use with XControl. This HD disk holds the entire contents of the two CPX disks in the ST section.

F4863 HEWLETT PACKARD SUPPORT DISK – Everything you'll ever need for your HP Deskjet or Laserjet printer.

F4864 SPLITTER, GREPIT, GHOSTLINK, EGALD, CD LIST, MED NET, ATARI WORKS TEMPLATES.

F5002 OMEn v3.03 – The cross platform multi-tasking operating system. Please note that OMEn does not run GEM programs directly. Disk also includes the OMEn developers' kit.

F5017 CDROM XFS, CD EXAMINER, DIRECT DRIVE, PROLOCK, MEMORY2, FASTBOOT, NEORAM, NEWSPEED II, PANTHER, RSC TRANS, ZORG, UNCLE RAM, SUPERBOOT 8.1.

F5018 DESKINF, DUET, PROFILE 2, RUFTRADE, ISHAR_ED, RECIPE BOX 4.5, ROUTE FINDER 1.8.

PAYMENT DETAILS: All prices include postage in the UK. Overseas orders welcome. Please add £1 per order for Europe and 10% of order value (£2 minimum) Rest of World. Overseas customers please note – We can only accept payment by credit card or in UK currency (cheque drawn on a British bank is recommended). Cheques should be made out to FLOPPYSHOP



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http://exxos.www.idnet.com/IMPULSE/atari/last/



Letters

Reader Disk

This is the first time that I have ever written into a magazine. What brought this about was your interview with Neal O'niions, and in particular the statement that "Today we have an audience dominated by professional people..."

I endorse his evaluation wholeheartedly. I use Calamus, K Spread 4 and Cubase 3, among others, on a regular basis and can vouch for the fact that many of my ST owning friends are also more concerned with the more serious side of the Atari. This is not to say that I am critical of the games player in any way. I occasionally indulge in the odd game of chess or patience, but the emphasis is surely on serious use.

I also applaud your solution to the Cover Disk problem. So many times I have been discouraged from purchasing a magazine which is highly priced because of the disk, because either the disk or the contents was not attractive, and what was left did not justify the purchase.

Graham George, Cardiff

The fact that the Atari market is now generally more serious is borne out by the nature of most of the new programs: utilities, systems enhancements, applications and so on. But you'd probably be surprised at how many people still play games on an ST, and how young some of our readers are.

I still believe that the Atari ST is the best all-round home computer at its price – I would even argue that it has no competition at the sub-£200 mark. And while many of you would claim not to be games players, I bet you STe owners tried the demo of Obsession on ST Review!

On the Cover Disk front, the situation is clear: three Atari magazines over a period of two years stripped the market of anything that moved. I compiled every cover mount for ST Review from issue 3, and know more than



Put pen to paper and "speak" your mind about any issue – and wait for Vic Lennard to reply...

anyone else how competitive this became. Also, you can only start to imagine how difficult it was to decant, say, a three-disk program into one!

Our Reader Disk idea is ingenious. You get to choose whether or not you buy them; we no longer have the one or two disk restriction. This keeps our cover price down and allows us to offer you PD and shareware utilities to go with our editorial, plus the odd major application such as next month's Timeworks 2.

Shareware

Great idea with the Reader Disk and glad to see that at last Pacshell (issue 1) is in the limelight. I have never had any claim to fame but the author did say last year that I was the only registered user. I hope more than a few registrations come his way.

Watch out for Thing, the German alternative desktop. These are authors I feel we should keep well in with.
Steve Whitehead, Swindon

The advantage of having Joe Connor and Denesh Bhabuta handling Public Arena is that both run supported shareware schemes, where UK residents can pay sterling within this country. Such people generate money for the authors, and similar schemes exist throughout Europe – more on this next issue.

As for Thing, I hope you enjoyed last month's Reader Disks...

Three into one

On buying the first issue of Atari World, WH Smith failed to supply me with the other two magazines. Wouldn't it be better to combine the three magazines into one?

I found it to be an informative magazine; I was heartened to find that the Atari was still being supported, upgrades and spares still available and software still being produced. I find the emergence of third-part Atari-compatibles such as the C-Lab Falcon and the Eagle encouraging – there is still a gap in the market between the games machines and the over-complicated and expensive PCs and Macs.

F. Fulbrook, Milton Keynes

Survey replies have come down in favour of a single magazine and we've decided to take that path – I have also seen Source and Pro slip out of the band in many shops. However, Source and Pro will continue to have their own 16-page "space" inside Atari World.

With Atari now out of the computer scene altogether, it's up to the third party companies to supply us with software, machines and services. To that end, we'll bring you impartial, unbiased reviews so that you

can make the right buying decisions.

As for the Atari-compatibles, all I want to see is realistically priced Falcon...

Jaguar please

Just a quick word to wish you all the best and to ask for some adult review of Jaguar games. I'm biased, I own one, but with the lack of a Jaguar-specific magazine, and "Edge" giving it short shrift, it would be nice to see some longer reviews of stuff like Air Cars and Bubsy. I haven't even seen any screen shots of these, or Club Drive, although I've heard on the grapevine that the two drive/fly games are naff. Please help me and other owners make up our minds.

Dave Wishart, Gwent

I sympathise with you Dave – I also own a Jaguar and realise how difficult it is to find a decent unbiased review. But the simple fact of life is that Atari World is primarily an Atari computer magazine, and I simply don't have enough pages to give the Jaguar much coverage.

Generally, I intend to have one or two Jag games reviews plus the Jaguar Update section in the news, but if products arrive for review during the course of creating an issue, the Jaguar games are the first items to be pulled and held over. This is why there haven't been any Jag reviews in issues 2 or 3. I have the copy and pictures for three games reviews ready to roll and I'll try to include at least one in issue 4.

If my memory isn't playing tricks, wasn't there a "preview" issue of a Jaguar magazine in the middle of last year? I wonder what a full-blown first issue never appeared? Perhaps it's down to lack of confidence in Atari which is a real shame as the Jag is certainly the best sub-£300 game console by a clear street. But technologically best often means little – just look at the Lynx...

Write on...

Send any letters to Vic Lennard at Atari World, either to the address on page 114 or via email to midihelp@cix.compulink.co.uk.

Next Month

TIMeworks *too!*

The full, current version of Timeworks 2 on Reader Disks...

Many of you have seen Timeworks as a demo. Others have a version, but not necessarily the latest. Next month our Reader Disks bring you the complete Timeworks Publisher 2 – the latest version. We will then bring you a series of practical DTP features that all of you can learn from and enjoy – Calamus, Pagestream and Timeworks users. Our copy of Timeworks Publisher will allow you to take full advantage of these continuing articles.

There have been revisions to Timeworks 2 which, among other things, allow you to use SpeedoGDOS and so scalable fonts. We'll solve all the previous problems of getting SpeedoGDOS to work with Timeworks through a simple step-by-step.

GST, the originators of Timeworks, also have an excellent reputation for documentation – and the full, original Timeworks manual will be available too. However, over

the coming months *Atari World* will build into a comprehensive guide to using this excellent program.

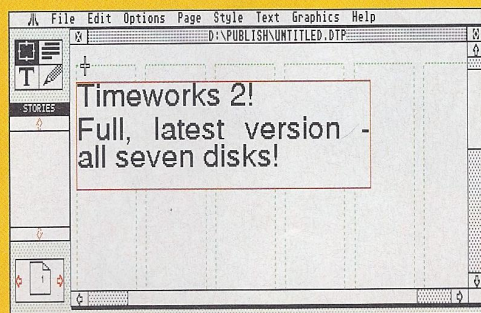
It's powerful. It's easy to use. It even runs on a

TV in medium resolution!

Timeworks also prints to

almost any printer: 9-pin, 24-pin, laser, inkjet or even a typesetter in PostScript.

Details of how to get the Timeworks Reader Disks will be in issue 4. But check out our subscription pages (38 and 39) for how to get your Timeworks Publisher ultra fast and save money too!



Timeworks Publisher 2 – and you can have all seven disks next issue!

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Reader Disks *free***

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- Interview with Sven Behne of NVDI fame
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Now!

SCANTASTIC OFFER!

A hand scanner has always been one of the classic add-ons for Atari users. Naksha, the company behind our scanner offer, is sadly no more – but its reputation for reliability was one of the best. We have been fortunate enough to secure limited stocks of these excellent hand scanners and can offer them to you for just £99 including VAT.

In a previous review, Atari World's Andrew Wright had described it as "blistering good value" when it was priced at over £110 – without our software bundle! Andrew did not stop there in his praise: "a delight in action... best hand scanner for the ST... superb grey scales can be created for DTP... highly recommended", were just a few of his other comments!

We only have a limited supply of these scanners which are available on a first-come, first-served basis. If you want to order by post then please ring our sales team first to check availability. If we have stocks, you will be able to reserve your pack before sending in your order.

THE BIG PACKAGE

Our hand scanner comes bundled with three complete software packages and an excellent scanner pad:

- Touch Up – industry-standard program for scanning and editing images.
- Studio Photo – the powerful retouching tool.
- Studio Convert – for converting your images into a whole range of different file formats.
- Scanner Pad – a two-in-one mouse mat and scan pad with a T-square for straight line accuracy.

All programs are the full versions with manuals and ring binder.

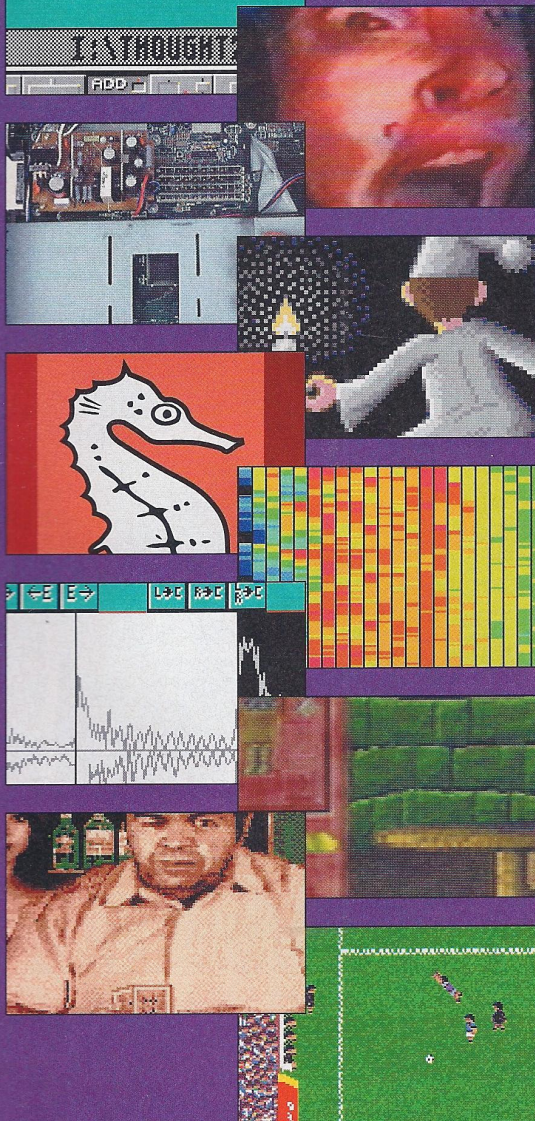
Full 12-month warranty

REVIEWS

Atari World's reviews section covers all of the latest products to hit the market. This month's 13 items include a preview of NeoN, the incredible Falcon raytracer, and a review of Team, probably *the* soccer game of 1995.

Inside:

Thou

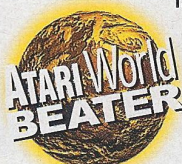


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- 35 Hollywood Hustler
- 36 Team

Atari World Scoring System

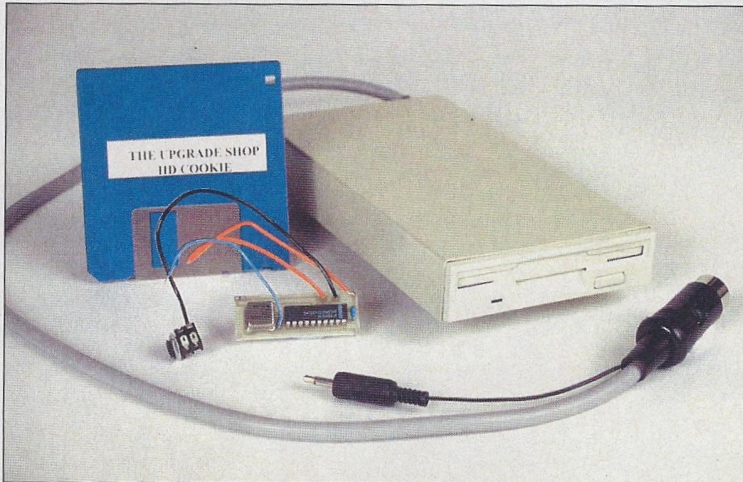
Each product we review (hardware, software, PD and shareware) is marked out of 10; an average product gets a mark around 5. A mark of 7 or 8 results in a "Buy Me" award. If the product is in an area that interests you, then it warrants careful consideration.

A mark of 9 or 10 receives the ultimate accolade of an "Atari World Beater" award. Such a product has been accepted by our reviewers as being excellent in its class.



TUS HD Drive Kit

With 1.44Mb floppies being so cheap, it makes sense to have a high density drive for your ST. Paul Rossiter dives for his toolbox...



The TUS external high density kit showing the drive with integral lead (including the signal lead), software and small circuit board.

A standard ST disk stores 720 kilobytes, and this month's ST Source covers this in detail. But have you seen the disks with a second square cut-out across from the "protect" hole? These are the high density variety and require a special drive to make use of their 1.44 megabyte double capacity. The Upgrade Shop has just launched such an offering.

On unpacking the TUS kit, you're presented with a 12-page instruction manual which includes the differences between ST models and the problems that may be encountered. There are four kits, going from just the internal board through to a full internal and external drive fitting.

Although the kit is intended for TOS 2.06, it works with any version of TOS from 1.04 upwards. If your TOS version is earlier than this, an upgrade is necessary.

How it works

The original floppy controller chip (WD1772) was only designed to work with 720Kb drives and only expects an 8MHz clock signal. The TUS kit doubles the clock signal by software control, resulting in data going to the drive at twice its normal rate, and giving 18

sectors per track instead of the usual 9. Some older types of WD1772 will not work, and these are listed in the manual. Even some of the newer types refuse to work reliably and the only guaranteed solution is to fit an Ajax chip, Atari's replacement for the WD1772.

The extra hole in a high density disk is detected by the drive and a signal sent to the module to tell it to switch mode. This requires a separate line via a mini jack socket in the rear of the ST.

Fitting

As with any internal upgrade, a fair degree of soldering skill is required and while this only requires six connections and a track cut, a great deal of care is needed. Part of the installation requires the soldering of a small board on top of the ST's sound chip. Unfortunately, the board's pins are too thin and flop around while soldering them – hopefully a later revision will cure this.

Despite claims in the manual that the module had been tested, ours didn't work! The fault was eventually traced to the jack socket for



the external drive having been wired incorrectly.

The supplied AUTO folder program worked fine, resulting in the drive recognizing high density disks and being able to format them through the extra option the standard "Format..." box.

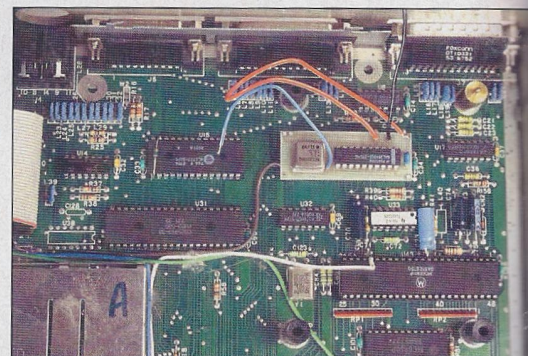
Verdict

Fitting a high density drive, especially as a replacement for an old broken one, is worthwhile, especially if you do a lot of back-ups or transfer files between PCs and Macs.

The TUS kit is inexpensive, if a little suspect in quality, and comes supplied with well-written software. If your technical expertise is up to the challenge, then give The Upgrade Shop a call...

One neat hole in the ST's rear panel for the signal lead and the job's finished.

The board fits over the sound chip and the blue lead is soldered to the floppy controller.



TUS HIGH DENSITY FLOPPY DRIVE



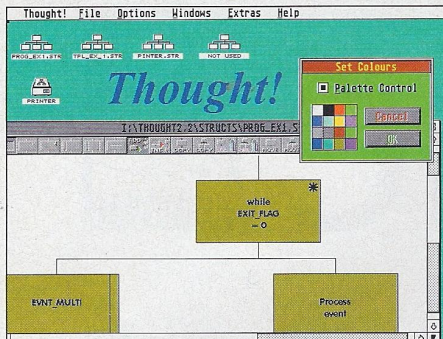
Contact: 01625 503448

RRP: Kit alone – £25; Internal drive and kit – £58; External drive and kit – £79.99; Internal and external drives with kit – £109.99

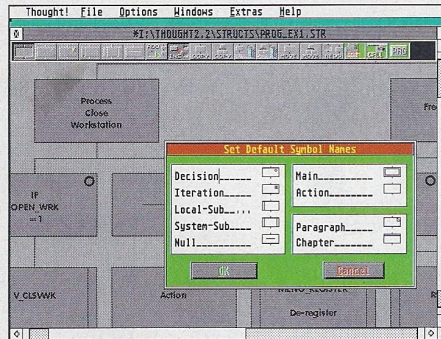
Requirements: TOS 1.04 or later

Pros: The cheapest high density drive solution on the market • proper software cookie jar handling
Cons: No support for pre-TOS 1.04 • build quality little suspect • soldering/track cutting required





Falcon and TT owners can customise the colour scheme by "dragging and dropping" colours from the palette dialog.



Thought! offers two basic structure models, one for general purposes and one for programmers.

Food for *thought*

A new breakthrough in artificial intelligence? Not quite, but Günter Minnerup finds that an ideas processor brings some order into chaotic brainwaves.

The trouble with cheap and cheerful project management devices – the back of an envelope or a Post-It note – is that they are easy to lose, they have only a limited capacity and they're not very flexible. Enter Thought!

Take that rapidly approaching essay deadline, for example. You've made plan after plan, note after note, and still find yourself sitting in front of the keyboard with a blank page staring at you. Thought! can help by bringing together the planning and writing stages: the transition from one to the other becomes so blurred it is hardly noticeable. Or if you fancy yourself as a programmer but find it hard to impose some structure on your code fragments, Thought! can act as a kind of interactive flowchart.

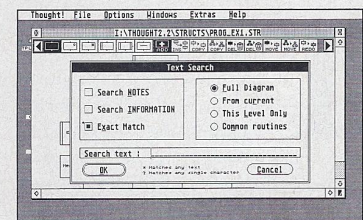
Outliner

Thought! is essentially a sophisticated outliner. The headings and subheadings

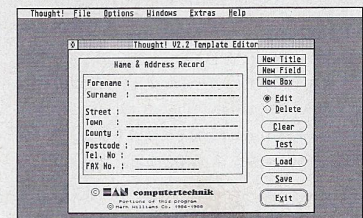
of a book or article, or the individual routines and procedures of programming code, are represented by boxes arranged in a tree structure which can be moved, copied and edited at will.

You start with a title or project name, add the headings for the next level, then branch out further. The great thing about this is the freedom it gives you to delve as deep as you like into one particular section before turning to the others – something that's difficult to do with a word processor or programming editor once you have written more than a screenful.

A box of any level, either alone or with all its subheadings, can be copied or moved to any other location in the tree structure at any time. Even better, each box can be



The powerful find command supports wildcards.



The Template Editor can be run as a stand-alone program or from within Thought!

THOUGHT 2.2	
Publisher: Titan Designs Contact: 0121 693 6669 RRP: £79.99 Requirements: Any Atari, 1Mb RAM, screen resolution of at least 512 by 400 pixels.	Pros: Very flexible • unique product for Atari • fills a real gap • good manual and user support Cons: Expensive • basic text editing features

Into the light



Soon-to-be-released Neon 3D boasts a fearsome armoury of raytracing features alongside an interface to die for. Nial Grimes gives his Falcon a real treat...

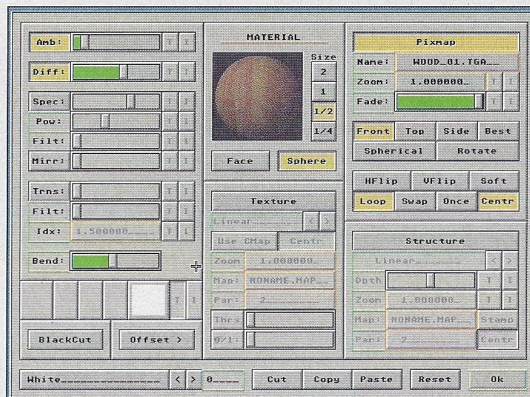
The Falcon has been with us for quite a while now, but only a select few packages truly harness the machine's potential. Apex Media certainly makes the grade as far as graphics are concerned and Neon looks set to achieve similar status in the world of raytracing.

Neon is made up of two separate parts, an object modeller and a scene editor. Both sections work in a very similar way – a panel of control buttons sits on the left of the screen while four windows dominate the centre. Your object or scene is displayed from three different angles in wireframe and also a solid object. Any one of these views can be blown up to full-screen size for some detailed editing.

Creating and working with objects is very straightforward indeed. The mouse is used to drag any component to a new position and all of the windows are instantly updated to reflect changes. Warping and stretching are treated to a similar level of sophistication and you can come up with some extremely life-like objects in a matter of seconds. Naturally, all sorts of textures and attributes can be glued on to each component in this virtual world too.

(above) The Neon promotional video shows exactly what the package is capable of doing – just incredible!

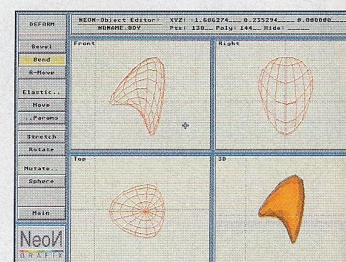
Each part of an object can be assigned an individual texture and image map – dozens of examples are supplied with the package.



Lights, camera, action!

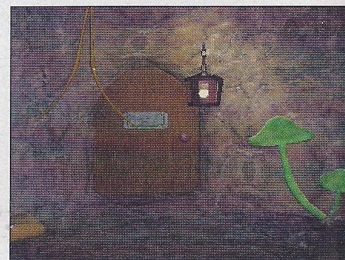
Although Neon works exclusively in 256 colours, the screen updates are surprisingly fast. It's not a GEM application but it looks stylish and is very nice to work with. The overall aura of speed extends to the rendering engine too. A simple scene can be churned out in under five minutes using Z-Buffer mode and the results are astonishingly good. Good enough, in fact, to make me double-check that I hadn't hit the raytracing button by mistake!. Real raytracing slows things down a little but this is still the twentieth century after all!

The quality of quick-rendered scenes comes in especially handy when putting together animations and Neon is certainly not found wanting in this department. Objects can be guided along bezier paths, rotated or moved in the usual fashion and the degree of control you have over the proceedings is astonishing. The innovative time-splines are particularly useful when it comes to setting up complex movement sequences.

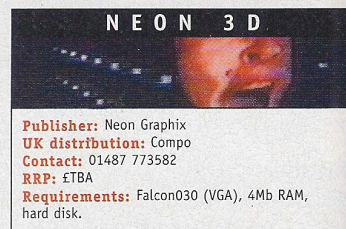


Primitive shapes can be bent and stretched to create natural looking objects.

Yep, if first impressions are anything to go by, Neon is going to be the Falcon package of the year. The interface sets new standards for raytracing software on the Atari and the animations it produces are simply stunning. Do make a point of checking out the promotional video. We await the finished product with bated breath...



The render time on this scene was six minutes – and just look at that quality!

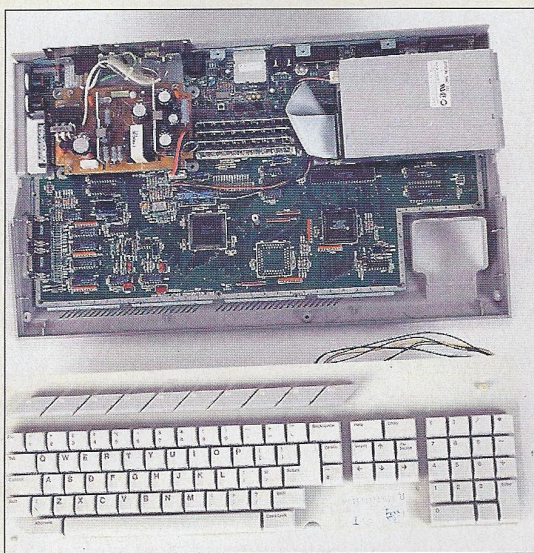


Publisher: Neon Graphics
UK distribution: Compo
Contact: 01487 773582
RRP: £TBA
Requirements: Falcon030 (VGA), 4Mb RAM, hard disk.

A real space case



A hard-wearing case gets the once over from Ofir "Open-the-box" Gal...

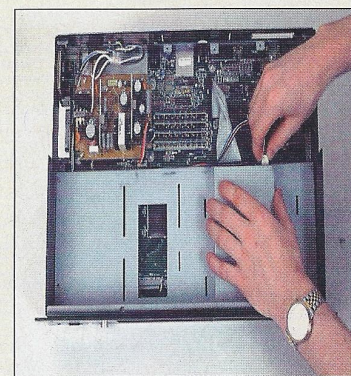


The kit comes in various configurations, sure to suit all needs. You can use your old keyboard and house it in a FreeKeys unit (as illustrated below) or use a PC keyboard. The unit can hold two drives, typically the internal floppy and a hard disk. A Falcon can have the 2.5 inch IDE drive in addition.

The first step is to disassemble your ST or Falcon. The motherboard slots into the SpaceCase

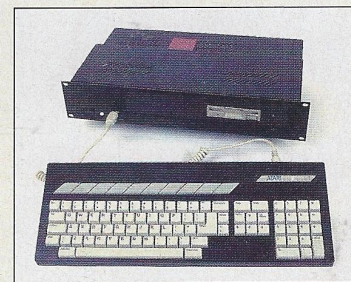
Step 1: The Falcon or ST in this case must first be disassembled. The various metal shields removed as well as the keyboard and floppy drive. This part of the installation requires a Philips screwdriver and a pair of tweezers.

MO4. All the other ports are left at the back. Use the supplied extension to relocate the reset and power switches to the front for easy access. The FreeKeys kit is very easy to put together and then to connect using the supplied cable.

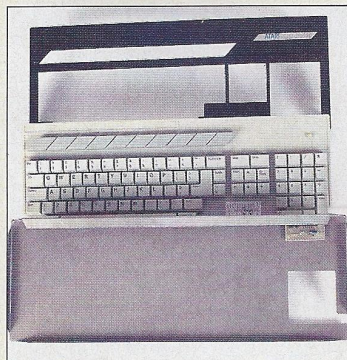


Step 3: The ST motherboard is then slotted into the SpaceCase. You now need to solder in the various port extensions to enable access to MIDI and cartridge ports. The floppy disk is mounted on the supplied bracket.

Step 4: The final kit. Notice the platform half way to the back of the rack unit. This is where the MIDI and cartridge ports are located.



Every gigging MIDI musician knows that computers aren't really built for the rigours of a tour. Transporting the system is bound to cause it some damage sooner or later. The new SpaceCase is a 2U rack mount case for the ST and Falcon. This DIY kit is specifically designed for musicians, allowing for easy access to the MIDI and cartridge ports. It is fairly easy to install, although a minimal amount of soldering is required.



and a special bracket is then installed so you can mount the floppy and hard drives. Finally, and this is where soldering is required, you need to install the extensions for the MIDI ports and the reset and power switches. Since the MIDI and cartridge port are on the left side of the computer, they need to be relocated to the back. The cartridge port extension is not buffered and therefore some dongles do not work reliably. Alternatively your Cubase or Notator dongle can be plugged at the bottom of the unit using a 90i adapter. It's less convenient but it's a more reliable solution.

A useful feature of the unit is the lowered platform at the rear. This is ideal for placing units like the FDI or

Step 2: The keyboard is placed into the FreeKeys kit which couldn't be easier to install.

SPACECASE	
Product name: SpaceCase UK distributor: System Solutions Contact: 0181 693 3355 RRP: SpaceCase £149, FreeKeys £39.95, MIDI and cartridge extensions £29.95	Requirements: Any ST, STe or Falcon Pros: Well designed • simple installation Cons: Expensive

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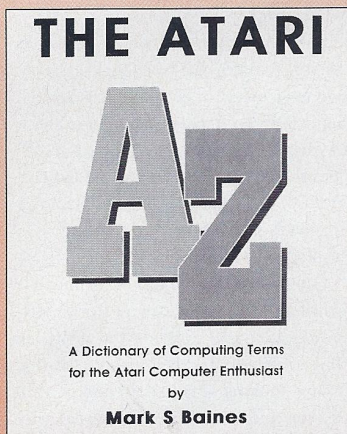
Please feel free to ring and chat to one of us about your requirements.

...at your service...

The Atari A to Z

Found a computing term you don't understand? Here's a book to take the strain. Ofir Gal gets reading...

The Atari A to Z was written by Mark Baines, a well known personality in the Atari scene. As a contributor to several Atari magazines and one of Atari World's team of experts, Mark has years of ST experience – not to mention use and abuse – behind him.



His book is described on the cover as "a dictionary of computing terms for the Atari computer enthusiast". Indeed, between the covers, you will find well over 300 pages clearly explaining the jargon on which the computer world seems to thrive.

While the book is aimed squarely at Atari users at any level, it also covers general computer terminology. The A to Z will help you find the meaning of computing terms such as Batch File, Bitmap, EPROM, Hypertext and Relational Database as well as Atari specific ones like Blitter and TOS and highly technical terms like Microwire and acronyms like USRT.

Most publications of this type are necessarily somewhat dry but the

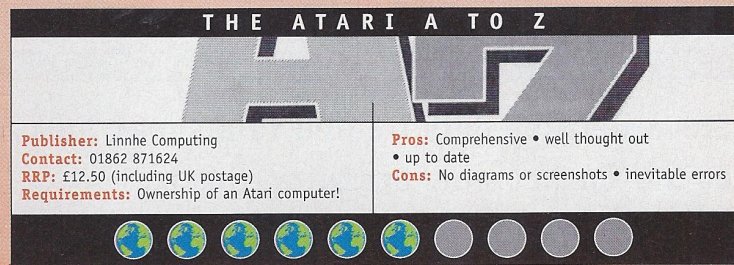
The Atari A to Z – all the info you'll ever need...

author still manages a little humour. Take the explanation of programming laws. Hall's first law says that if people built houses like they write programs, the first woodpecker would wipe out civilisation.

You will also be able to find the full spec for all Atari models, memory maps, sample GDOS and MultiTOS configuration files and much more.

Verdict

This is one man's project, entirely produced on an Atari computer using Protext and a laser printer. It isn't a glossy paperback but a ring-bound book much like a manual. The layout is plain and, sadly, contains no diagrams or illustrations. As in similar books, errors have crept in, but overall the information is accurate and up-to-date. On the whole, this book is recommended for anyone with a thirst for knowledge and an understanding of Atari computing.



A good MO



Ofir Gal looks at a new MIDI port expander.

The ST, and now the Falcon, are the standard machines for MIDI sequencing. Having a MIDI interface as standard is probably the main reason for this success, but lately users have been demanding additional MIDI outputs. The built-in single MIDI out is good enough for casual use but it limits the user to 16 MIDI channels.

With today's multi-timbral, multi-channel synthesisers, this limit is a little unrealistic. Several devices were introduced in the past by Steinberg, C-Lab and others to solve this problem but at a relatively high cost. Now SoundPool, the company behind the Falcon FDI and FAS, has come up with

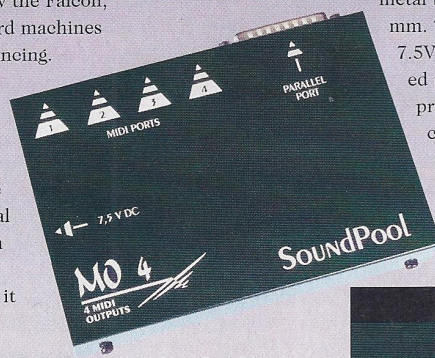
a new solution – the MO 4. The unit bears the familiar SoundPool characteristics. Sporting four additional MIDI outputs, the MO 4 is a plain-looking, green metal box measuring 60 by 40 by 10 mm. The unit requires an external 7.5V power supply and is connected to the ST or Falcon via the printer port. The supplied disk contains the M•ROS driver required to make it work with Cubase. Simply copy it into the M•ROS folder on your Cubase disk and run Cubase. The additional

outputs are available from the Output column in the Arrange page. Each track can now be routed to one of the outputs, each of which is capable of handling 16 channels. You can still use the standard Atari port as well so you get a total of 80 MIDI channels.

Verdict

The MO 4 works as expected with Cubase, although there are known problems with the Studio Module, mainly when transferring long SysEx messages. This problem is down to the Studio Module itself and is currently being investigated by Steinberg.

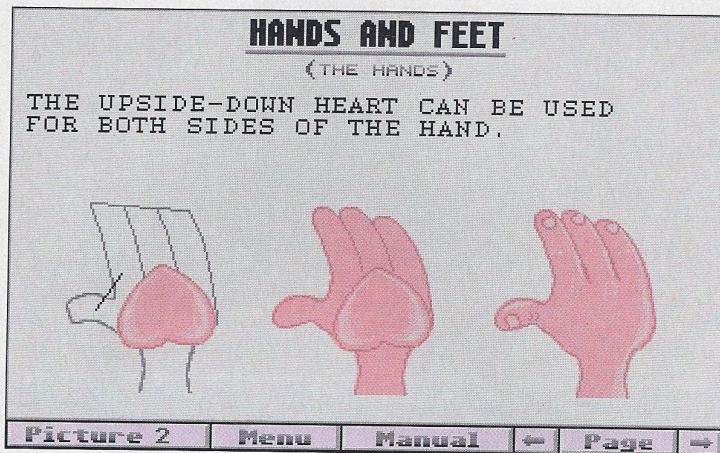
While the lack of a printer through port means you need a switch box if you have a printer, the MO 4 finally offers a solution to the age-old problem of the ST's single MIDI out.



SoundPool MO 4 – four extra MIDI outputs for Cubase courtesy of the printer port.



Grafix *design*



Steve Delaney gets treated to a sneak look at the forthcoming art tutor, Grafix.

Silly Software are well known in the shareware scene for releases like STOS Graphic Adventure Creator 2 and Grannie's Garden. They are impressive programs with stunningly professional graphics that really make them stand out from the crowd. The good news is that Silly Software will soon be sharing their secrets with the rest of us in the form of Grafix, a comprehensive graphics tutorial package.

Everything in Grafix is accessed from the attractively-styled main menu that contains 12 tutorials devoted to drawing and another four to animation. There's also an introductory section and an art package known as Grafix Art. The preview copy had just seven drawing and one animation tutorial active and Grafix Art wasn't included but will be supplied with the finished version.

Each tutorial in Grafix consists of a number of screens that are used to illustrate the intermediate steps required in order to achieve the desired result. A short text description on screen explains what's going on and often suggests variations on the technique that can be used to achieve different effects. Paging backwards and forwards between the different screens requires no more than a simple mouse click.

Spit and polish

Grafix does not include a printed manual. Instead, the appropriate sections of the manual are loaded with each tutorial and are accessible from any tutorial screen. It needs a fair amount of tidying up with regard to punctuation, grammar and spelling, if the preview one is anything to go by. One problem appears to be that moving between the manual and

the tutorial results in losing your place in the manual when you return. Also the mouse is disabled while using the manual. However it is very easy to follow and a joy to use – it just needs a bit of "spit and polish" before the final release.



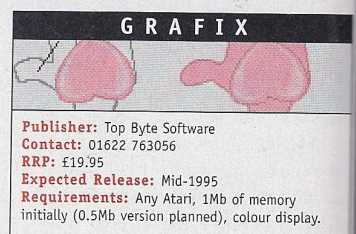
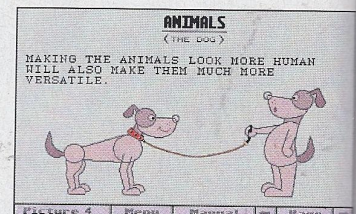
Anyone who had a heart...

Grafix places emphasis on creating cartoon type graphics and this is what sets it apart from other tutorial programs. The unique approach adopted in the creation of the human head produces wonderful results as does the "humanisation" of the dog and cat! What's even more surprising is that almost all primitives evolve from basic circles, rectangles and triangles. Have you ever heard of designing a human hand from an upside down heart shape or missing out a finger or toe to avoid "clutter"? These are just three examples of Silly Software's unconventional approach to computer art but the results speak for themselves!

Not everything in Grafix is unconventional, the perspective tutorial follows convention to the letter of the law. The colour tutorial is another traditional one, looking at hot, cold and neutral colours and the different tones adopted by a colour depending on its proximity to other colours. Outlining, shading and anti-aliasing give an interesting insight into commonly used tricks of the trade. A nice touch in the colour tutorial is the use of a magnifying glass to let you enlarge any area of the screen and examine the techniques used.

With about half the tutorials operational and the absence of Grafix Art, it's difficult to predict whether or not Grafix will have an earth-shattering impact on the Atari scene. However, it is fair to say that if the remaining tutorials contain the same sparkle as those seen to date, Silly Software's first commercial release is unlikely to be its last.

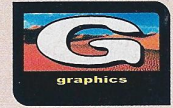
Grafix takes the lead in animal welfare!



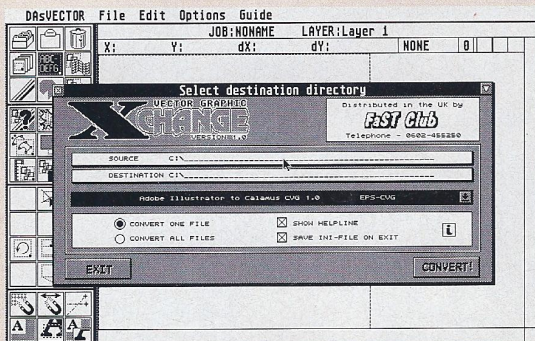
Add more depth to your picture with some shading.



Xchange visit



Andrew Wright gets well and truly converted with the FaST Club's new vector exchange utility.



to use software that prefers GEM format graphics, like Timeworks. Files can be imported from Mac and PC art packages and used in Atari DTP software like DA's Layout and Calamus. I converted vector graphics from several sources

bitmap graphics are also ignored (Illustrator and WPG files can contain a mixture of vector and bitmap data).

On the Atari side, apart from the lack of GEM file support, the main problem is the limitation of the CVG and OL formats. Calamus crashes if there are more than 255 segments in a single path, a situation found in many complex graphics. Also, Xchange only works with the CVG 1.0 format – colour information is lost and turned into greyscale. It supports both Outline Art formats, 1.0 (greyscale only) and 3.0 (24-bit colour), but not both ways – foreign formats lose all colour information and become Outline Art 1.0 files yet to export from Outline Art format, the source has to be 3.0.

As a desk accessory Xchange is always there when you want it.

We've got bitmap image converters coming out of our ears! Excellent programs like Imagecopy and GEM-View can convert just about every image file format you're ever likely to hear about, but can we convert vector graphics? No way – unless we happen to own the right programs.

The arrival of Xchange, a brand new vector converter from the FaST Club, may change this. The program was developed from ECVerter, which was once a shareware release, but it now converts more file formats.

In fact, it can convert files from Adobe Illustrator and Macromedia Freehand (AI or EPS extender, PC or Mac), WordPerfect (WPG) and Windows metafiles (WMF) to either CVG or Outline Art (OL) format for use with Atari software. Illustrator files are supported only up to version 3.0 – Illustrator 5.0 files don't appear to work properly.

This opens up all kinds of possibilities for Atari users – unless you happen

without any trouble, including CorelDRAW! and WordPerfect on the PC, and Adobe Illustrator 5.0 on the Mac.

And back again

There's a lot less choice if you want to go the other way. You can only convert CVG files to the earlier Illustrator 88 format while OL files are converted to Illustrator 3.0. This isn't a problem as both formats are universally supported on the PC and Mac.

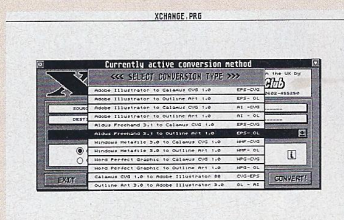
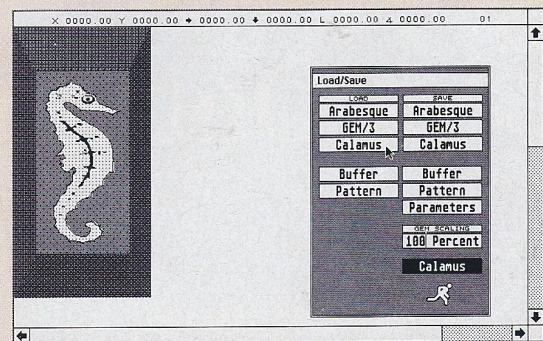
Xchange is supplied in one disk with a single A4 sheet for a manual. It runs as an accessory or a program and can be iconised for use on multi-tasking systems. On running the program you get a single movable window and some self-explanatory controls. Files can be converted individually or in batch mode and the settings are saved in a configuration file to speed things up. It's user-friendly and works fairly rapidly. Incidentally, it looks horrible in medium resolution (though it will still work) but ST high resolution or better is recommended.

Although Xchange works very well, it has a few limitations. As far as the AI/EPS format goes, embedded text is discarded so care has to be taken in saving text as outlines in the original application. Any

Verdict

Xchange is a handy little utility to have and it drops yet another barrier in the path of users wanting to swap data between PCs, Macs and Ataris. At under fifteen pounds it's a bargain too, but it's a pity about the lack of colour support.

This complex vector graphic was converted from CorelDRAW! format to Adobe Illustrator, converted using Xchange and loaded into Arabesque. The result is in the top left corner of this page...

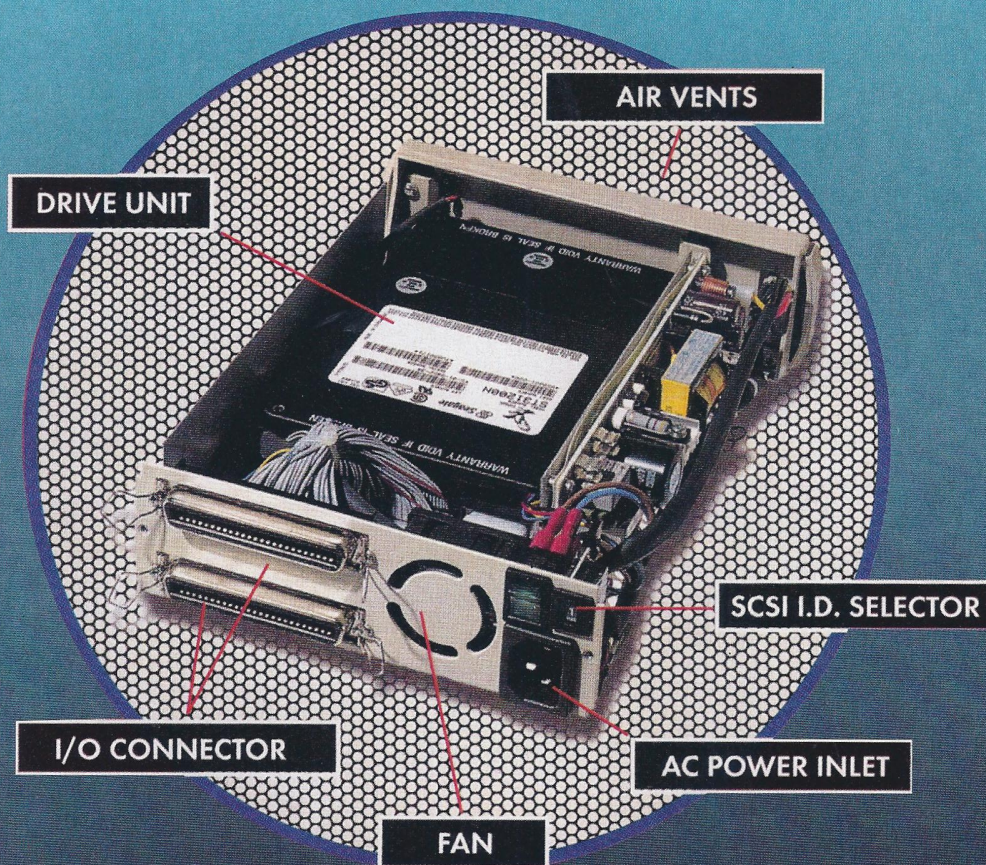


A number of different conversions can be carried out.

XCHANGE

Publisher: Eines Computing UK distribution: FaST Club Contact: 0115 945 5250 RRP: £14.95 Requirements: Any Atari, 0.5Mb or more memory.	ST high res or better Pros: Quick • effective • handy accessory version Cons: No GEM • needs hi res • no colour
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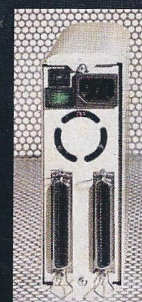
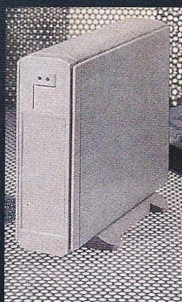


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Marpet upgrades for the STF(M) are plug in and require no soldering providing MMU and Shifter chips are socketed (phone for details).

The Marpet board allows connection of standard "SIMM" memory boards (see prices below).

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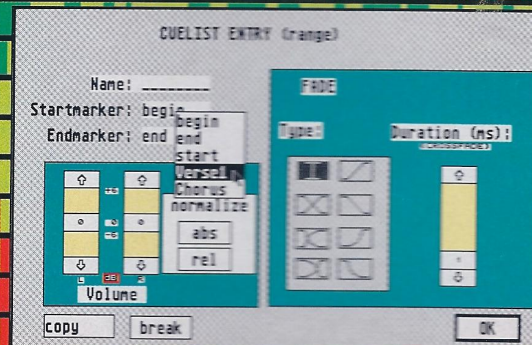
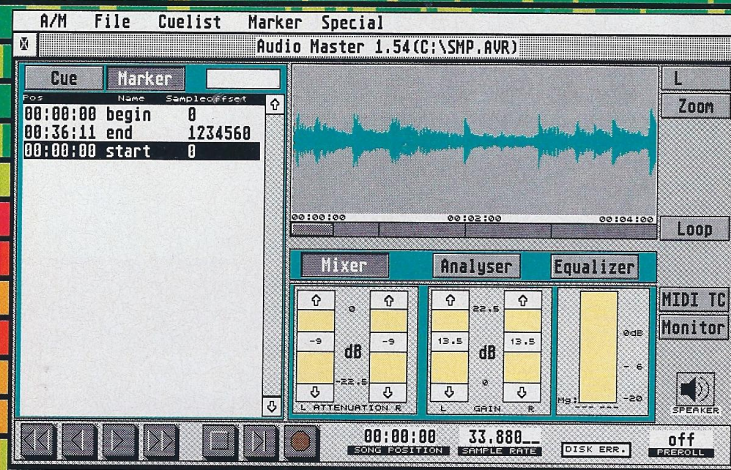
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You create a cue by selecting start and end markers from those already defined using pop-up menus. You can also select fades and crossfades.

AudioMaster with the Modules loaded in Marker mode showing the waveform of a recording.

AudioMaster

A professional mastering system running on the Falcon? Does AudioMaster offer pro power at a semi-pro price? Ian Waugh gets into producer mode to try it out.

Last month we looked at a direct-to-disk recording program for the Falcon called AudioTracker that supported up to eight tracks of digital audio. AudioMaster comes from the same company and while it shares some similarities, it's just a two-track recorder intended as a professional mastering system. Most functions can be performed in real-time including manipulating fades and volume changes.

The program is copy-protected with a dongle. It records directly to your hard disk and although it will work with the Falcon's internal IDE drive, a SCSI



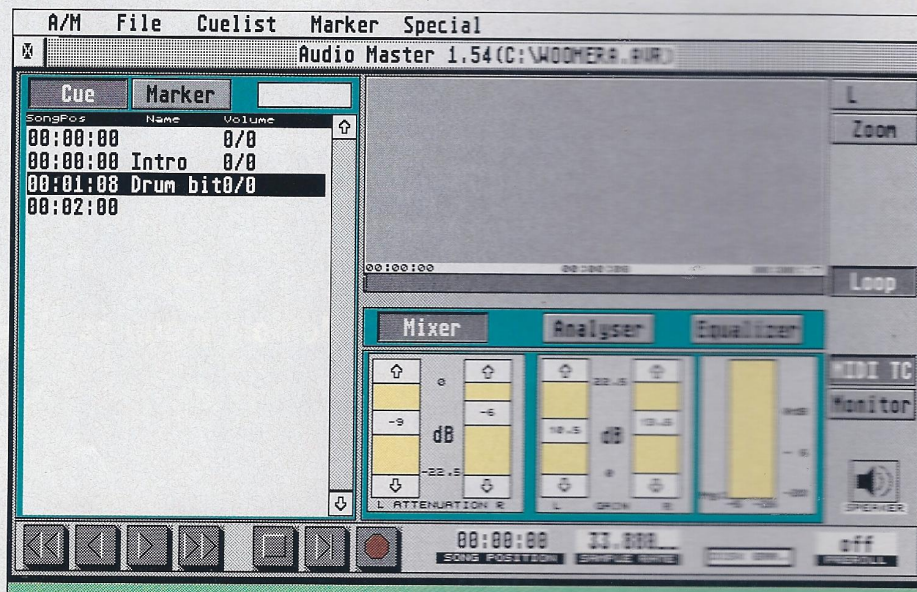
drive will give better performance.

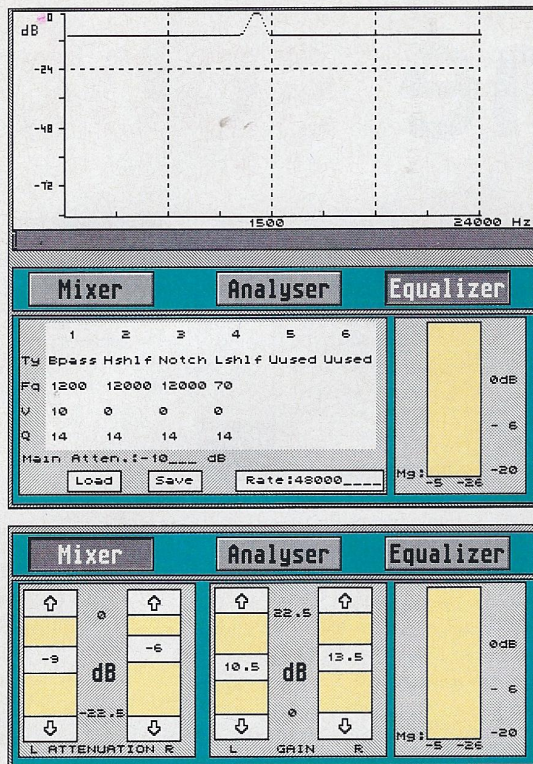
Amazingly, it only needs 40K of RAM.

If you want to record at 44.1kHz or 48kHz, you'll need an SPDIF interface. This can record sound digitally, say from a DAT, CD player or sampler, and back up the data on your hard disk to a DAT. SoundPool produce an SPDIF box at £239 although any one should work. You can also use AudioMaster with the FAS (Falcon Analogue 8) which costs £349 although, naturally, the program will only use two channels.

Without an SPDIF unit, you can record at the seven usual rates the Falcon supports including 49.17kHz and

In Cue mode, the marked sections are arranged in a cueList.





33.88kHz. As AudioMaster is intended to be a pro mastering system, there seems little point in recording at anything less than the best.

Big files

Before recording, use the Monitor and Mixer to check the input level and attenuate if necessary. You cannot over-drive the input as you can with audio tape as digital distortion will occur.

All recordings are saved in one big sound file. You can append a recording to existing ones which makes the big sound file even bigger. You can import and export samples in AIFF and AVR formats.

Modular by design

One of the nice things about AudioMaster is its modular design which enables you to add to its facilities using various software plug-ins. There are currently three such modules.

- **Equaliser.** This contains six full parametric equalisers, each working independently to control frequency, damping, steepness and filter type (high pass, low pass, band pass and notch).
- **Analyser.** This produces a real-time display of volume frequencies from 15Hz upwards in four window modes. All analysis functions work in real-time in both record and playback modes. This module will also run as a stand-alone application with additional features.

- **MIDISync.** This enables you to slave AudioMaster to MIDI Timecode to synchronise with external audio and video equipment and MIDI sequencers. MIDI Play enables samples to be triggered by MIDI notes.

All the modules worked very well indeed and add that extra bit of power the real pro user so often looks for.

(top) The Equaliser module has six parametric equalisers and produces a graphic display of the effect the EQ has on the frequency spectrum.

(bottom) The Mixer has attenuation and gain controls for both left and right stereo channels.

The Analyser module gives you more features when run as a stand-alone application.

After recording all the takes you need, you define markers to indicate sections of the sample. These may be intro, verse, chorus, fill and so on or they could be much smaller sections, say of a drum roll, an orchestral hit and so on.

You can insert markers manually and on the fly. They can easily be adjusted later by dragging them to a new position in the waveform display with the mouse or by clicking on transport controls. You can zoom in on the display for precision marker placing and you can hear the sample as you scrub through it.

The next step is to create a cue list from the sections of the recording you have defined with markers. Select the start and end markers of the section you want to use, name it, adjust the volume and select a crossfade shape from linear, exponential and reverse exponential. The fades are generated in real time and if you are asking the system to do too much and have a slowish hard disk, you may get a disk error.

There's a Loop function which loops the current cue list entry. You can change the marker and hear the result immediately.

Verdict

AudioMaster works fine and does what it sets out to do extremely well. Personally, however, I prefer a more graphic approach such as dragging audio blocks around the screen and that sort of thing to the lists of

AudioMaster Lite

The name is a little misleading. It isn't a cut-down version of AudioMaster but a cut-down collection of the three AudioMaster modules. It has three parametric equalisers and a selection of the analyser modes. MIDI Sync allows synchronisation but omits the MIDI Play function.

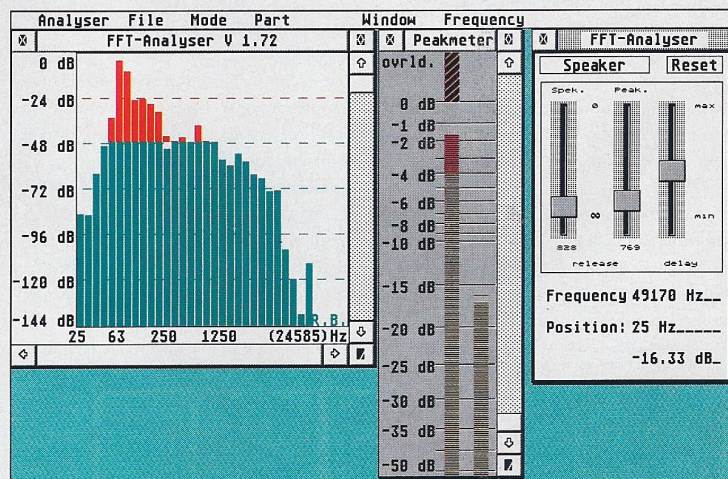
It's quite possible that Lite will provide the additional levels of control you need. It represents a saving of £348 over the price of the three full modules and represents correspondingly good value.

numbers used by the cues. But that's just me.

The manual is a photocopy with small print. It's been translated from the German – by a German and not terribly well – it's not particularly well ordered. I might accept this for a budget-priced product but when you pay over £700 for the full pack, I think you're entitled to something a bit more substantial.

AudioMaster itself may have won a Buy Me award for power and quality and perhaps we should have given it one. However, to really switch into high performance mode you also need the modules and two out of the three cost more than AudioMaster itself. No doubt the programming is very clever but they are very expensive add-ons. If you are a pro, you can probably afford it but if you're not, AudioMaster Lite offers a good value for money alternative.

All things considered, AudioMaster is a pro piece of software at a pro price. If you don't need the pro facilities then AudioTracker may be a better bet.



AUDIOMASTER

Publisher: SoundPool
UK Distribution: System Solutions
Contact: 0181 693 3355
Price: £199 (Equaliser module £249, Analyser £199, MIDISync £99, AudioMaster Lite £199)

Requirements: Any Falcon with 4Mb of RAM and fast hard disk. S/PDIF required for recording at CD and DAT rates.
Pros: Modular design • real-time operation • flexible markers • non-destructive editing • runs in 4Mb of RAM
Cons: Documentation below par • expensive • uses a dongle

X marks the spot

Carl Löfgren zeros in on yet another new sampling package and goes off in search of the perfect loop...

Zero-X is a new sample editing package that was developed to take advantage of the Falcon030 technology but which still works on other Ataris as well.

Besides the basic editing functions (such as cut, copy, paste, fade and optimise), Zero-X includes some very useful editing tools like SmartCut. SmartCut is a neat time-saver that will erase unwanted noise or silence before or after the sampled sound that is needed.

Falcon030 users can enjoy 16-bit play-back, while STe and TT users have to be satisfied with 8-bit play-back. Unfortunately sample monitoring isn't supported on standard ST(FM)s.

Powerful looping features

In Zero-X there are two ways of finding the best possible loop. AutoLoop returns the best fitting loop start to the end of your loop (the classic autoloop). A short test revealed that it took 42 seconds for the autoloop function in Avalon to examine an 84Kb sample while the AutoLoop in Zero-X only took one second. Both achieved similar results too.

The alternative is AutoSearch. This function examines all possible start and end points of loops for the best result. AutoSearch is, of course, slower but the result are much better, if not perfect...

There are always samples that seem

impossible to loop. In these cases you can perform destructive manipulations such as XFade and Gate. Gate is probably best described as an "un-fader", as it transforms a fading part into equal volume – useful for short samples. Using this function on non-fading samples can result in anything from

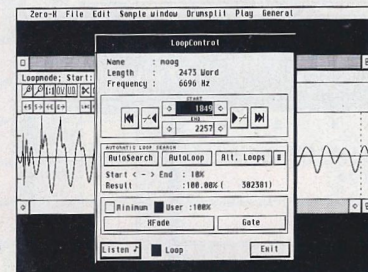
white noise to an interesting effect. Experimentation is the key word here, although an undo function would be very handy.

DrumSplit

One of the biggest problems when using sampled grooves is the fixed tempo. Let's say you have a track at 120BPM (Beats Per Minute) and you want to include a loop at 130BPM. Possible solutions are to timestretch it, or split the loop into smaller segments with Zero-X's DrumSplit facility.

You can either save the drums to disk or send them to your SCSI or MIDI sampler. Zero-X can also create a MIDI File, so after you have organised the samples in your sampler, it is possible to recreate the original beat and import it into a sequencer track!

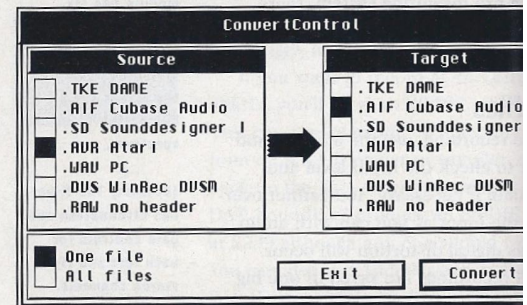
Increasing the tempo to 130BPM makes the loop play faster yet still sound almost the same as it did at 120 BPM! However, decreasing the tempo will make unwanted silences appear as the drums are exactly the right length to fit the original tempo. On the other



The AutoSearch performed on a MOOG sample.

hand, this is a problem in technique and not a limitation of Zero-X.

It's worth pointing out that DrumSplit isn't just useful for tempo changes – you can use it if you want to exchange some of the drums, requantise the groove into a new rhythmical pattern (for example with DNA Grooves for Cubase) or try to learn how other musicians make their grooves swing. The possibilities are almost endless, but be prepared to be patient.

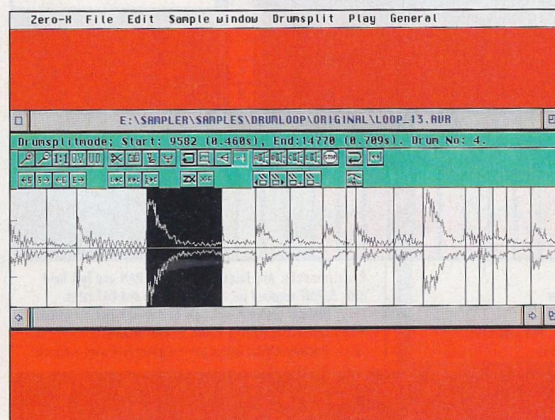


Verdict

The manual is a bit short at 40 A4 pages but it covers the main functions well. It also includes a good section with some very useful tips on how to get the best possible results from your samples. Zero-X is copy-protected with a cartridge port dongle, but at the time of review the developers were considering dongles for other ports.

Zero-X makes sample processing much easier. Its looping functions are the best I've seen in any program or on any sampler. If you are into sample editing, don't miss this one.

Zero-X can handle and convert the formats.



The DrumSplit in action.

ZERO - X 1.01A

UK Distribution: Digital Village/System Solutions

Contact: 0181 440 3440/0181 693 3355

RRP: £129

Requirements: Any Atari, 1Mb or more

memory, ST high res or better

Pros: Low price • excellent looping functions

- good DrumSplit facility

Cons: No undo function • dongle protected

- only one sample in memory

TEAM



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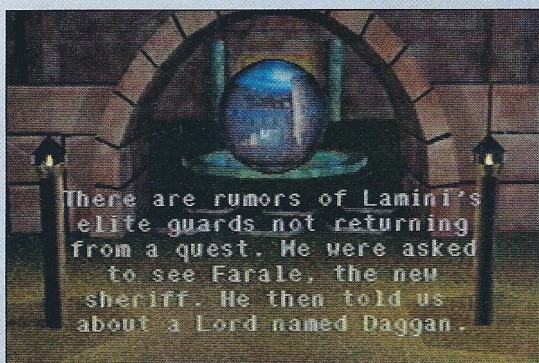
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High and mighty..



Towers II adds a new dimension to Atari role-playing games! Nial Grimes waves his magic wand and conjures up a 3D, texture-mapped report...



Sequels are usually a thinly-disguised attempt to milk a successful game, but *Towers II* is different; very different. In fact, you'd have trouble establishing any link between the somewhat dated presentation of *Towers I* and the streamlined sophistication of this new, Falcon-only role-player.

The game is set in a land full of magic and your quest is to overthrow an evil astronomer called Daggan. Brush past the carefully woven plot and the

The atmospheric intro sequence explains just enough to whet your appetite for the game.

Navigation can be difficult but the mapping system is always on hand to help out.



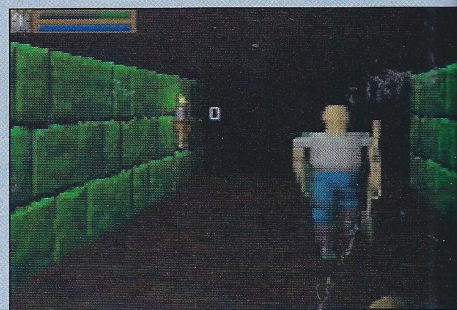
gameplay can be summed up in two words – exploration and survival. This involves finding keys to open doors and hoarding any objects that you think might be useful – after all, the members of the council have promised to let you keep as much loot as you can carry out of Daggan's tower!

Although the graphics look similar to most other role-playing games on paper, they're actually three-dimensional. This gives you total freedom in wandering around the complex – move the mouse to the left, and the view swings in the appropriate direction, slide it forward and the character begins to walk. It's all very natural indeed, but it's also very easy to get lost, until you realise that your every step is carefully recorded by the auto-mapping system. Interaction with the scenery is equally easy; objects can be dragged to the inventory and the left mouse button swings the current weapon into action.

As you wander through the decidedly green corridors you will come across some

spell scrolls. It's here that the attributes of the four available characters come into play – Gerand is ideal for beginners (owing to his strength) but more experienced players might prefer Merton's wisdom (and therefore magical powers). Once you've progressed past the initial "can't survive for more than two seconds" stage, each game can last several hours. However, your progress can be saved at any point and the music remains soothing throughout.

Towers II is a role-playing game for the masses and a real time-guzzler. It combines some strong RPG atmosphere with a sizable portion of action and shows off the Falcon very well. It does lean strongly towards the adventure end of the gaming spectrum, but at least you don't need to own an anorak to enjoy playing it...



Towers' 3D graphics add atmosphere to a very competent role-playing game.

TOWERS II - PLIGHT OF THE STARGAZER

Publisher: JV Enterprises
UK Distribution: Goodman International
Contact: 01782 335650
RRP: £19.95 (demo available)
Requirements: Falcon only, 2Mb memory

Pros: Realistic 3D environment • a true falcon game • effective music
Cons: Slightly repetitive gameplay • updates a bit choppy in full-screen mode



Hollywood Hustler



Andrew "Cool Hand" Wright raises the ST card game stakes and deals himself into Hollywood Hustler...



This is where it all happens – methinks I've got them beat on this one though.

The room was silent. The only noise was the hum of an ancient fan, the only movement the wisps of cigar smoke that drifted backward and forward across the table. A chair creaked. Far away a siren screamed. Andrew "Cool Hand" Wright, his face a mask, took a last look at his three Jacks. "Raise you twenty" he croaked as the coins clinked into the centre of the green baize table. This was the big one, the biggest pot of the night and he wasn't about to lose it...

I'm in the money! Now just lead me to the bar and the girls...

If that's your scene – bar the big money stakes, of course – then Hollywood Hustler might be just the game you need to keep you up into the small hours. It's the first Atari game from a company called Desert Star Software and it has some pretty impressive specs to back it up. This is no poker simulation with a table-top view of the game – this is the nearest thing to a multimedia game that you're ever likely to see on a standard ST. Not only do the characters move, they speak and makes various noises too, ranging from grunts to more unsavoury expulsions of air from other orifices. While the samples are only 5kHz and the colours are restricted to the ST's usual maximum of 16, this is a pretty impressive bit of programming.

The game comes in a video style case and comprises three disks. If you're worried about disk-swapping,

forget it. The main game is one disk and the others are the highly atmospheric intro and the ending in which you get your just reward. And she ain't bad, I'm telling you...

No fixing

The game offers three levels of play but there's no fixing of cards at all and the rules are straightforward draw poker. The rules are unbelievably simple – it's the subtleties and the bluffing element that take time to master. Betting can be difficult because just as in a real poker game, you have to remember who's raised and who's stayed with it. All the game shows you is the total pot. The minimum bet is \$10 and the maximum raise is \$25 but as it isn't real money who's bothered?

Your three opponents are always the same – Joe, Chuck and Montana Slim – but they can have slightly different styles every time you play. According to the 16-page booklet, they even watch the way you play and gauge you accordingly. I couldn't swear to that one way or the other but for most of the time they play a pretty mean game of poker. Having spent several nights in salubrious places in my youth, I think I know the score as far as poker is concerned but they'll certainly take some beating. Occasionally you can take them to the cleaners, as they seem to get carried away with the most outrageous bluffs but on the whole, they're hard to fathom, especially at the highest "hustler" level.

Verdict

My biggest grumble about the game is the inflexible control system. A joystick is mandatory and there aren't any keyboard shortcuts at all. Let's face it, poker isn't exactly the action game of the century is it? So why a joystick? Admittedly it's a lot neater than using keys but what about people who don't go for mainstream games and don't own a joystick? It took me an hour to find mine... Bad move, Desert Star.

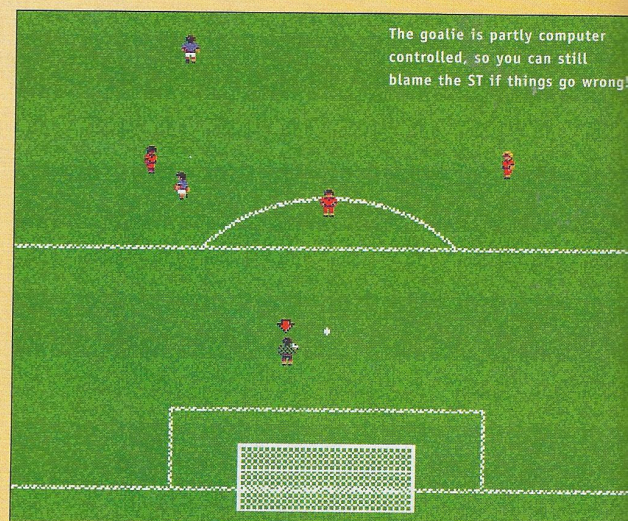
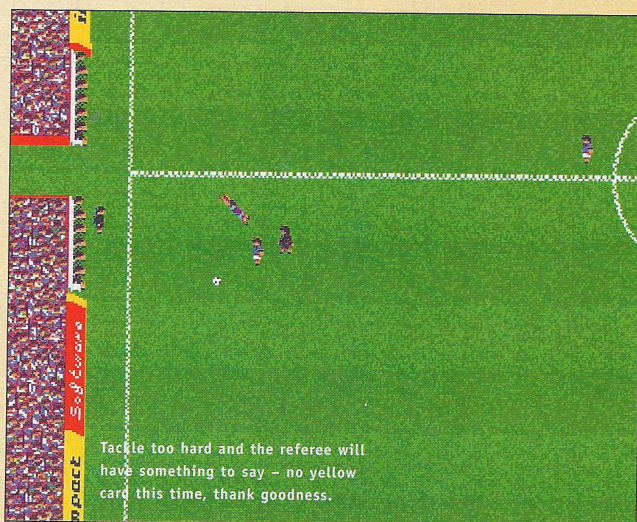
That grumble aside, if you like poker, you'll love Hollywood Hustler. It might be a little sexist and somewhat adult in content, but for frustrated poker players it's the business. Deal 'em out, Slim.



I called Candy but she was engaged...



HOLLYWOOD HUSTLER	
Publisher: Desert Star Software Contact: 01482 871210 RRP: £24.95 Requirements: Any Atari, 1 Mb or more memory, colour monitor/TV	Pros: Great atmosphere • impressive animation • plays a good game Cons: You've got to be keen on poker • joystick required • little variation

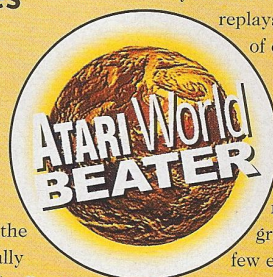
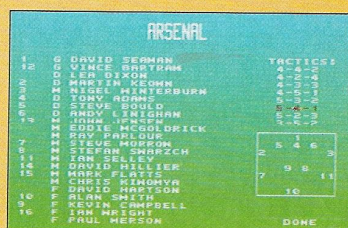


Let's *play* ball!

Team promises fast soccer action along with unrivalled presentation. Nial Grimes digs out his trendiest bobble hat and heads for the terraces...



The formation of the players can be adjusted to suit your level of expertise - form an orderly line in front of the goal, please!



The patience of the clan STe is finally being rewarded - Team finally arrives, hot on the heels of Obsession and Zero-5. For the uninitiated Team is yet another technical extravaganza, proving that the big 'e' has got what it takes to deliver pulse-racingly smooth games. By the way, we're talking serious soccer here. In time honoured tradition, the pitch is viewed from above, and your joystick - or Jaguar Powerpad - is used to command the army of little players as they run smoothly around the pitch. The control system is very flexible, allowing proper dribbling, passing and

banana kicks. As a result, it does take a while to pick up, although years of abusing myself with Sensi are probably partly to blame.

Once you've mastered elementary

ball control, you can begin to explore the game itself. Both League and Cup options are available, along with variable pitch conditions, blind or hawk-eyed referees, adjustable match lengths, replays, team design and all sorts of other goodies.

You can even twiddle with the formation of the players on the pitch - heavy defence is ideal for newbies, while experts (or no-hopers with delusions of grandeur) will benefit from a few extra players up front. It may sound a bit like a rerun of Sensible Soccer, but improvements have been made where possible - for instance, you can fast-forward and rewind the replays frame by frame.

The artificial intelligence system reflects this all-out approach and Team demands thoughtful play with plenty of passing in single player mode. Of course, when it comes to a duel, the usual "kamikaze" tactics will serve you well.

Balls...

If you think you're having a hard time battling against the best soccer teams in the world, spare a thought for your poor STe that is labouring hard to deliver super-smooth scrolling and crisp sound effects. It's in this area that Team really scores over Sensible. Gone are the days of willing the pitch to move; Team throws the whole lot around effortlessly, improving the gameplay in the process.

The other effects are pretty slick too - the little guys jump, dive and tackle with incredible agility and only a hint of flicker here and there detracts from the overall effect. Other touches such as the colour co-ordinated crowd and neat intro music add extra class.

Verdict

There's no doubt about it - Team is the best soccer experience available for the Atari. It's fast, smooth and very playable once you get your head around the control system. If you can live with the fact that the gameplay is quite similar to Sensible in style, it comes thoroughly recommended. Have a ball!

TEAM	
Publisher: Impact Software Contact: 01280 850450 RRP: £24.95 Requirements: Atari STe or Falcon030, 1Mb memory, colour monitor.	Pros: Well presented • excellent music • smooth gameplay Cons: Players flicker at times • quite similar to Sensible • no sound on Falcon



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Porn cocktail

Graeme Rutt takes a long, hard look at computer pornography.

Whatever your views on pornography, it's long been enjoyed by much of the human race. You only have to think back to the illustrations in the *Kama Sutra*, the images on certain Japanese porcelain or the erotic woodcuts popular in 18th century Britain.

The level of hysteria about computer pornography is as worthless as it is reprehensible. Whether it's to sell religion, garner a few easy votes or shift a few more newspapers, the shock revelations we see almost on a daily basis are inevitably fuelled by other motives.

Last year's survey in *Atari ST Review* and the recent survey in *Atari World* have shown us that the average reader is in the 38-45 age range – just the kind of people who will have children and might well be worried about computer pornography.

This article will attempt to get to the facts of the matter; what's available, the views of pornophiles and the legal situation in the UK. Armed with the facts, you'll be better placed to make decisions for yourself and your kids.

Where it's at...

First off, there's a hell of a lot of pornography available on computer. It exists in many forms

and, with the right equipment, it's easy enough to access. Given a modem, a computer and some knowledge, you can download porn pictures and other material within minutes.

The Internet, as well as offering unparalleled business and communications possibilities, is also a hotbed of sex and sexuality. As the 'Net has evolved, the various sub-systems have taken on different personalities. The World Wide Web, for instance, offers an interface that's a mixture of text, graphics and sound, and has lent itself well to commercial ventures.

Magazines like Penthouse and Playboy offer a few glamour pictures, advertising the pictorial delights in their paper publications. Hustler let's you subscribe to its "members only" area, which includes a full electronic version of the magazine.

Various sex-shop facades tease the viewer with a few soft-core shots



The Usenet doesn't actually exist on any one computer - messages are shunted around every available news server on the 'Net and it doesn't get a lot of attention from system operators.

The anarchy that ensues from this liberation has enabled the Usenet to become the depository of totally free, easy-to-access pornography. The different newsgroups offer different types of porn, usually in hierarchies.

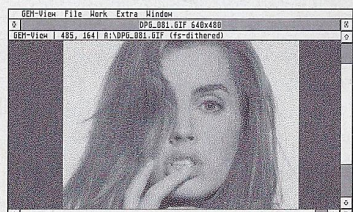
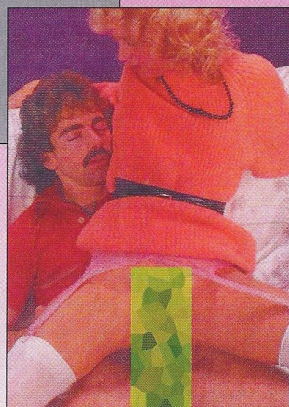
Some of these cover text-based fiction, with everything from romance to hard-core sex, torture, rape and incest. Others offer GIFs and JPEGs of a sexual nature, from glamour shots to penetrative sex. And while a paedophilic area exists, it's not used much and when it is, the people posting this filth get jumped on. Damn, I'm being subjective again...

There are also a number of fetish areas: redhead, pregnant, bestiality, bondage and so on.

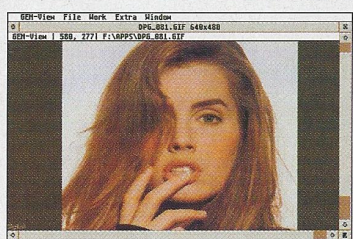


The binary areas of Usenet hold thousands of hardcore porn pics such as this – but without the “respectability” filter.

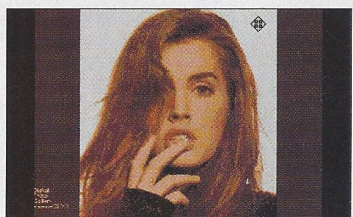
The GEM program, Oasis, with a listing of some recent Usenet messages.



In medium or high res, the ST isn't much cop at viewing colour pictures...



... but the Falcon, on the other hand, is the bee's knees...



... while even the humble ST can show pictures quite well using the Speed of Light viewer.

while attempting to sell you anything from hard-core CD-ROMs to double-pronged knobby things. There's even a cyber-brothel on the Web and a number of different places that offer "live chat" forums where you can talk dirty to women – at a price.

FTP sites – traditionally the 'Net's

free-access file depositories – are the domain of the private trader. Any site (usually academic) that puts up a porn directory closes down within a week of it going public (academic authorities rarely have the same liberal attitudes as their students). Instead, you end up with small groups of like-minded people, intent on trading one picture for another on an unpublicised site. It's very much like computer piracy groups – admission is rare and excommunication is instant should any member of the group go public.

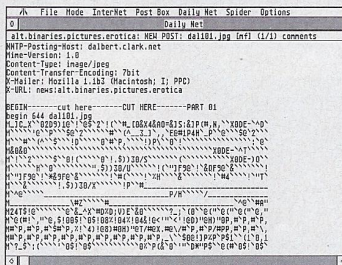
The Usenet is a huge, global messaging system (like a BBS message area) that can also carry binary files (pictures, for example) in an encoded format. Here, there are areas devoted to almost every area of sexuality and it's run as a kind of organised anarchy. People send huge amounts of porn in the various newsgroups and other people download it – there are no charges and everything seems to happen on a totally altruistic basis.

Parental choice

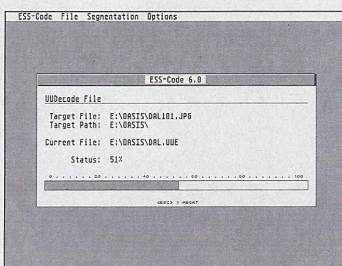
So forget the shock-horror information terrorists and rely on the objective facts. The bottom line is that porn is available and that it almost always requires a credit card or a telephone line (and often the two in tandem).

The over-riding message here for the parent is that you have, in your hands, all of the means necessary for controlling your child's access to pornography. You can check your credit card bill, you can check your (itemised) 'phone bill and you can check the family computer regularly.

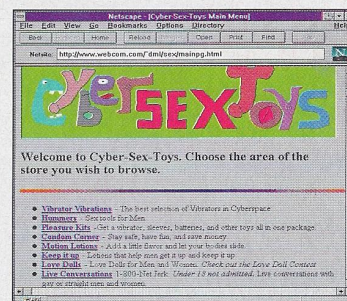
More importantly, speak with your child and find out what they are using the computer for.



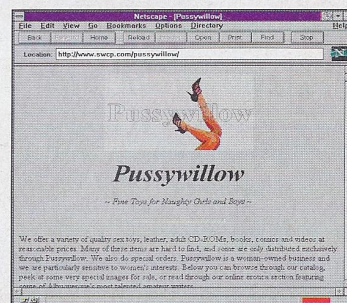
On the Usenet binary files such as pictures come in UUEncoded format...



... and programs like Ess-Code decodes them.



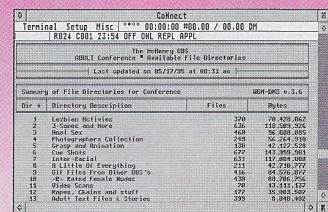
Using Netscape on the Mac or PC, the shopping is a bit prettier...



... but you can still do it on any Atari if you're desperate enough.

Smutty boards

Bulletin boards are often the comms user's first port of call. Most in the UK are scared of touching porn, so it's to the continent or the USA that the hardened pornophile will turn. BBS systems, usually with a monthly subscription charge, are available in legion and cover almost every type of porn you care to name.

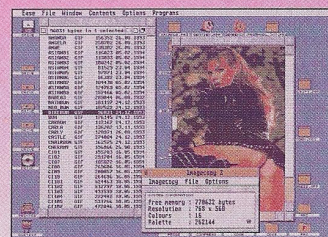


Just some of the quaintly named areas on the US-based McHenry BBS

Grot on disk

Many companies now offer to send you pornographic pictures on floppy disk and CD-ROM. Foreign firms, mainly in Holland and the US, no longer seem to care about sending quite explicit material to the UK. When I asked 10 firms advertising on the Web if they'd send me their hardest disks, nine of them said there was no problem.

In the UK there has recently been an emergence of soft-core CD-ROM disks available mainly as a tie-in with top-shelf porn mags. The first was The Fiesta CD-ROM which includes pictures, film, sounds and icons.



Upwards of 2,000 pictures come on this disk.

Porn and you

Can exposure to porn affect you? And what are the legal implications?

One of the most difficult areas of the whole pornography debate is how exposure to pornography can effect people. Most people would state that they aren't affected at all by the porn they've seen – others say a naked nipple depraves and corrupts.

This isn't an area in which anyone can give a definitive answer. Instead, here are the views of two people who

download and view an awful lot of Usenet pornography. Let's refer to them as Mr X and Mr Y.

Interview with Mr X

Mr X is in his late 20s, has a middle income and is single.

How long have you been into pornography?

"Like most, I was exposed to porn on

the playground at school. There was quite a black market in magazines. Things have just naturally progressed from there. The Net simply provides easier access."

And how much do you download each night?

"About one or two megabytes, by the time it's all converted and stored on my hard disk."

Are you happy with this?

"The problem with the Net is that it's very addictive. Anyone who's read newsgroups or browsed the Web will understand how easy it is to just keep looking for something new. When you overlay that urge on top of porn, you find it difficult not to keep looking for something different out there."

That's hardly a 'yes', is it? So what's the downside?

"I think the worst thing is insatiable curiosity when it comes to the really seedy stuff you can find. There are some very nasty images around, but it's hard to resist the temptation to just have a look and see, even when you know something might be suspect. Porn is so easy to get hold of, you don't even have to worry about the embarrassment of going into a newsagents. It's hard to set a limit under those circumstances."

And do you blame this on pornography itself?

"I don't really know. Are the only men who look at porn the ones without girlfriends? I don't think so but I suppose there's an obvious link there. I think the really telling point is that I wouldn't

admit to anyone quite how much porn I've got stashed away so I'm obviously ashamed of it on one level. If I had a girlfriend, would I still look at it? I reckon so but I don't suppose I'd be quite so dedicated."

Interview with Mr Y

Mr Y is a middle-aged professional man in the upper income bracket.

Have you been into pornography long?

"Since I began to access the Internet almost a year ago."

How much of your time is spent on it?

And those against...

There are precisely 4 sites that have been found to give a negative leaning on 'Net porn...

... and strangely enough, they all have a religious theme. Is it a porn problem or guilt?

This site appears to offer some good background...

... and then advocates prayer as the answer.



Family Fortunes

Andrew Wright demonstrates the ins and outs of tracing family history – a growing hobby your Atari can help with.

Most of you will have wondered at some point about where you came from but few will have taken it much further.

On the other hand, genealogy – the study of family history – is one of the fastest growing hobbies in the country and there is a good range of Atari software that can help you get back to your roots.

With a little effort and a couple of days leisurely research, you should be able to trace your family history back 200 years or so without too much difficulty. How far you go back after that is entirely up to you.

The first and most obvious place to start is with your living relatives, if only because it's free. Interview them and make notes of everything they can remember. The most important facts are names, places and dates in that order.

Armed with everything Great Aunt Ethel can tell you, the next stage is to get hold of a birth certificate for as many family members as you can. Visit

the General Registry Office in St Catherine's House,

London, or contact your Local Registry Office if you're sure you have the right area. Postal

applications to the GRO cost £15.50 (against £5.50 to the LRO) but you can visit St Catherine's

House in London and search the indexes yourself and get a certificate for £5.50. This is best if you have no idea where a particular ancestor was born.

You can also check things like the census index at the Public Record Office which gives places (except the 1841 census) and dates of birth, and go back as far as you can in both indices. Before 1st July 1837 (after which all births, marriages and deaths had to be recorded) the options become less clear.

Parish registers are a good source and many are now kept in local libraries. This is why places are important – if you know where someone lived, you can trace them through the parish records.

Dozens of utilities exist for Atari genealogists. Ted Richards, the author of Newgen, is working on a fascinating calendar conversion program that will convert dates from one format to another.

- Convert date in Jewish Calendar -																			
Year:	0001	Month:	<table border="1"> <tr> <td>Tishri</td> <td>Heshvan</td> <td>Kislev</td> <td>Ievet</td> </tr> <tr> <td>Shevet</td> <td>Adar</td> <td>Vesdan</td> <td>Nisan</td> </tr> <tr> <td>Iyyar</td> <td>Sivan</td> <td>Tammuz</td> <td>Av</td> </tr> <tr> <td>Elul</td> <td>~~~~~</td> <td>~~~~~</td> <td>~~~~~</td> </tr> </table>	Tishri	Heshvan	Kislev	Ievet	Shevet	Adar	Vesdan	Nisan	Iyyar	Sivan	Tammuz	Av	Elul	~~~~~	~~~~~	~~~~~
Tishri	Heshvan	Kislev	Ievet																
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Iyyar	Sivan	Tammuz	Av																
Elul	~~~~~	~~~~~	~~~~~																
Day:	01																		
		Convert	Stop																

Useful contacts

- Society of Genealogists, 14, Charterhouse Buildings, Goswell Road, London EC1M 7BA. Tel: 0171 251 8799.
- Institute of Heraldic and Genealogical Studies, 79-82 Northgate, Canterbury, CT1 1BA. Tel: 01227 768664.
- General Registry Office, St Catherine's House, Kingsway London (used to be Somerset House). Postal applications to GRO, P.O. Box 2, Southport, PR8 2JD.

GEDCOM and the IGI

The International Genealogical Index is stored on a set of 45 CD-ROMs and it is open to everyone to use. This amazingly detailed index is the result of many years of research by the Church of Jesus Christ of Latter Day Saints (the Mormons) whose religious beliefs revolve around the family and everlasting life. It contains no less than 200 million names (of all denominations, not just Mormons) taken from a variety of sources, including parish registers and census returns.

Track down your local LDS Church in the phone book and ask for the nearest Family History Centre which should have at least one PC hooked up to a CD-ROM drive. You can search for ancestors and take away any possibles on paper or on floppy disk.

The data file is a GEDCOM file and it has become the international standard for genealogical data exchange. While very few Atari programs support it, the file itself is ASCII, so you can always look at it in a text editor. The GEDCOM format is increasingly important these days as more and more genealogists swap data over the Internet and the ROOTS genealogical forum on CompuServe.

[illegible]

Generation Gap Plus is the only Atari program to support GEDCOM. Unfortunately it is very hard to get up and running.

Family Roots 2



BUY ME!

HARRY Surname: WOODBRIDGE
Settled In: ELY
Marriages: 1 Children: 6 Broth/Sist: 9 Flags: A B C D E F
Occupation: STOREMAN
B 3/3/1824 Place: Parish: ST. AGNES
District: CHESTERTON Town: CAMBRIDGE County: CAMBS
Bapt: Place: Parish:
District: Town: County:
Died: B 8/7/1899 Place: Parish:
District: RIVERSIDE Town: ELY County: CAMBS
not used: notes: notes:
Marriage Parent Bro/sis Print Entry Delete Unlink Search Zoom Screen

Family Roots takes yet another approach to the problem of storing genealogical information. Rather than just entering names and details and linking them together by navigating through forms, Family Roots takes a graphical approach, allowing you to build up the family tree on-screen there and then. You don't have to define a starting point and work backwards – you can alter the tree at any time and add new family members as you discover them. This is particularly useful if you have a lot of research to do and you want to experiment with various lines that are only partly understood.

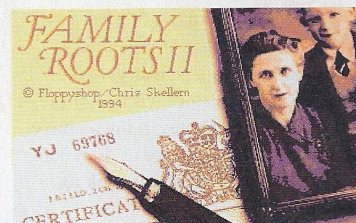
There's no GEM interface because of the huge virtual workscreen which can be of almost unlimited size. In theory it can store up to 270,000 individuals provided you have the memory but even 1,000 or so will take up less than 100Kb of RAM and on a standard 520, up to 100,000 names could be stored quite easily. Unfortunately there is no support for the Falcon's high resolution modes or screen expanders like ScreenBlaster, which would make the virtual

Each individual on the tree has his own screen which can be accessed by right clicking.

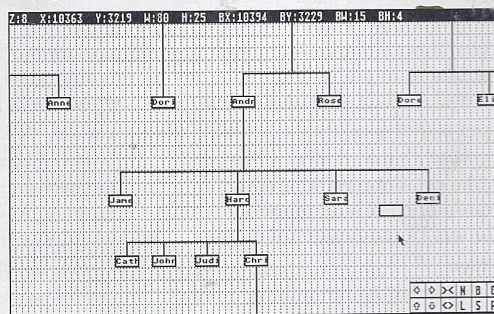
Got a big family? Family Roots' workscreen is up to it.

workscreen approach much more interesting.

Family Roots is a very competent database, despite its graphical approach, and the search routines are fast and flexible. The tree data can be printed out in ASCII format for safe-keeping but unfortunately it can't be exported in GEDCOM format. Most kinds of printer are supported too.



Family Roots is a polished, well-presented package.



FAMILY ROOTS 2

Publisher: Floppyshop
Contact: 01224 586208
RRP: £24.95
Requirements: Any At
resolution

Pros: Printed manual • graphical approach
• flexible output • fast
Cons: No GEDCOM • non-GEM interface
• hard to use

Newgen

Like most genealogy programs, Newgen was written by an experienced genealogist and the result is a highly functional database program but without any of the frills we're used to seeing in modern Atari programs.

Newgen is a TOS program that relies entirely on keyboard input but this gives it plenty of speed, and it can handle large databases on relatively basic hardware. The base version of Newgen can store up to 999 names with fixed data fields for each which include birth, baptism, death, funeral and marriage dates, records of offspring and space for references too. Each individual is given

Newgen's rather basic menuing system.

PAGE: 1

- A. Enter/edit record of a person
- B. Print/display/save list of persons
- C. Print records/note sheets
- D. Display/print family of a person
- E. Print/display/save birth brief
- F. Print/display/save a descendant list
- G. Construct/save a drop line tree
- H. Print current drop line tree

S to stop; N for next page; L for last page

Enter letter of option required: █

a unique reference number and can be married up to three times and have up to 16 children. Dates can be stored and recognised in any format and there is a macro feature to make data entry easier.

Despite its basic interface, Newgen can print and display information in various formats, from lists of individuals to descendancy charts and complete family trees in various sizes and fonts. Up to 50 generations can be included and there is no width limit. The main program supports only 9-pin dot matrix output but separate printer driver disks are available for DeskJets, lasers and 24-pin varieties.

Form to enter or edit a record for a person

Surname: Hildrew First names: Alice
 Father: 2 Mother: 3 Gender (M,F): F ID number (19): 5
 Born on: 6-JUN-1923 at: Jarrow Ref: 101 index
 Baptised on: at: Ref:
 Died on: at: Ref:
 Funeral on: at: Ref:
 Marriages:
 1. On: 6-JUL-1940 To: 6 at: Ref: Children: 2
 2. On: 11-NOV-1944 To: 7 at: Ref: Children: 1
 3. On: To: 1 at: Ref: X Children: 0
 Occupation: Abode: Note sheet: N

F1 saves form; F2 quits form; F3 clears form; F4 refreshes screen
 F5 clears field; F6 clears data; F7 makes spare; F8 creates/edits note
 F9 saves form & copies marriage data; F10 defines macros

Well designed forms make data entry easy.

Newgen isn't the best looking program around but it is comprehensive and still being improved – GEDCOM support is on the cards, for example. A demo version is available from Goodman International or direct from the author for just £2.50.

NEW GEN

ldrew First names: Alice
 Mother: 3 Gender (M,F): F ID
 6-JUN-1923 at: Jarrow

Publisher: E. Richards
 Contact: 0181 693 7499
 RRP: £17 (£20 for Newgen5K)
 Requirements: Any Atari, medium or high resolution, 1Mb RAM and hard disk for Newgen5K

Pros: Well documented • supported • fast
 Cons: No GEDCOM • dated interface
 • poor built-in printer support

Family Tree

FamilyTree File Edit Display Print Preferences Help

Person for Person... AP HILDREW

Family name HILDREW Index... XI Born 28 Feb 1835
 Forenames William Ripp Descendants... XD Baptised
 Place of birth Sunderland Configure... CP Died 1897

Occupation Unknown

Mother Mary TODD
 Father William HILDREW

Spouse Mary PRINGLE
 Place William HILDREW 1810
 = Mary TODD 1832
 = William Ripp HILDREW 28Feb1835
 = Mary PRINGLE 1859
 = William HILDREW 1860
 = Robert HILDREW 1865

Children
 William HILDREW
 Robert HILDREW

Reference 1

In contrast to Newgen, Family Tree uses GEM to the full. While this makes it a lot more pleasing aesthetically, it doesn't necessarily make it easier to use initially. In fact, without an hour's worth of dipping into the manual, you'll find it hard to get going. This isn't too much of a chore though as the manual is available in text form or ST-Guide hypertext and once you've got the idea, Family Tree has a lot to offer.

Some aspects are a little quirky – if you only know the year of a particular event, for

Drop-down menus and multiple windows – that's GEM!

example, you need to enter "00 Xxx" before the year, which is somewhat unnecessary. You can enter names into the database and connect them via marriage or birth with a few mouse clicks but only in certain circumstances – it would be nice to be able to add a child directly to an individual's screen rather than creating a new person record first.

Each individual has its own notes page so you can store anecdotes and research references quickly and easily. Printing is via GDOS (or SpeedoGDOS)

so you can have superb quality family trees as long as you have a GDOS supported printer. Trees can be merged together too, so you can create separate trees for different lines and put them together when your research is done.

Family Tree's complex options screen.

FamilyTree File Edit Display Print Preferences Help

Family Tree

Family name Person selector Save time interval 30min Feb 1835
 Forenames Auto list selection 1897
 Place of Re-use family name ☒

Occupation Displays and prints Longer names ☐
 Mother Descendant's death date ☐
 Father

Spouse Further notes Tiny Small Normal
 Place

Children Maximum people 1000 Maximum couples 500
 William People block size 10000 Couple block size 2000
 Robert Maximum people blocks 100 Maximum couple blocks 50

Edit buffer size 2048

Reference OK Cancel Save Help OK

FAMILY TREE

William People block size 10000 Couple
 Robert Maximum people blocks 100 Maximum

Publisher: Goodman International
 Contact: 01782 335650
 RRP: Freeware
 Requirements: Any Atari, medium or high resolution

Pros: Costs nothing • GEM interface • easy to use
 • GDOS output
 Cons: No GEDCOM • clumsy data entry

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available - call our
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speak to Keith for
more information.**

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STFM upgrade to 4Mb:

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Each memory upgrade comes with a free disk including memory test software, RAM disk, print spooler and disk copier, all to ensure you can make the most of your new memory upgrade...



**4MB STFM
UPGRADE FOR
JUST £99!**

UPGRADING AN STe

A 520 STe is usually supplied with two 256Kb SIMMs and has sockets to plug in two more - it's that easy! A few do not have sockets in which case you will need a pair of adaptors. These may need soldering; if this is the case, we will supply the sockets at no extra cost - that's service!

A 1040 STe will usually have four 256Kb SIMMs. In order to upgrade you need to replace these with two or four 1Mb SIMMs to give either 2 or 4Mb of memory.

UPGRADING AN STFM

In over 90% of all STFMs, the upgrade plugs straight in. There are possible problems if either the video shifter chip or the MMU chip in your computer are not in sockets.

Occasionally, extra components and a little soldering may be required. In these cases, we supply any extra components free of charge.

YOUR ST

other essential items!

12 REASONS TO BUY FROM US...

All the products on offer have been carefully selected by us as the best in their class. But top quality does not mean top price. Thanks to our huge buying power we can deliver top value too.

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- ✓ All memory boards are individually tested
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- ✓ Support from a top ST Engineer is just a telephone call away
- ✓ Prices include VAT and postage & packing – the price you see is the price you pay
- ✓ No minimum order and no credit card surcharges
- ✓ Memory upgrades carry an exceptional five year warranty and other products a full 12 months
- ✓ 28-day no-quibble money back guarantee
- ✓ 24-hour order hotline
- ✓ Because we only sell a few items, your order will normally be supplied straight from our large stocks
- ✓ Your credit or debit card will not be processed if the item you order is not in stock
- ✓ Experienced technicians are available for advice before placing an order

COMPO

ORDER HOTLINE

Call 01487 773582

These lines are manned Monday to Friday,
10am to 8pm, and Saturday, 10am to 5pm.

If you call outside these hours you can place an order by answerphone – just give the information on the order form as it appears. You might find it easiest to complete the order form before calling so that you can read from it.

TURN OVER...

... for more readers' offers and details of ordering by fax or post!

SEE THE PREVIOUS PAGE FOR OUR SENSATIONAL MEMORY UPGRADE OFFERS!

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Either a single or twin joystick adaptor will save you from the ST's most common hardware fault – a broken mouse port. Changing from mouse to joystick is that much easier if you have extension cables.



**From
£3.99!**

MOUSE

The ST may be a great computer but the mouse that comes with it simply isn't up to scratch. Our mouse is far better because it uses micro-switches for the buttons, making it much lighter and easier to click. It also has a much higher resolution – 280 dots per inch which means you need far less desk space and get much finer control.



£9.99!

UVK

Everyone knows about viruses, but far too many ST owners think it can't happen to them – it can! Despite the fact that you never get disks from "friends" and only buy commercial software, a virus could still infect you. And when the gremlins get at your disks, life becomes an absolute misery.

Don't let this happen to you.

UVK detects and kills more viruses

than any other virus

killer.

**Version 6.0
now runs as a
desk accessory**

£9.99!

CLOCK CARTRIDGE

Who sets the time each time they switch on their ST? If like many thousands of ST owners you don't, then you are missing out. Every time you save a file it gets stamped with the time and date – invaluable when you are hunting for a file. Get a clock cartridge and the time will be set automatically each time you switch on your ST.



£14.99

TO: COMPO. PLEASE RUSH ME THE ITEM(S) AS TICKED OPPOSITE.

I ENCLOSE TOTAL PAYMENT OF £

PAYABLE BY: CHEQUE ☐ P.O. ☐ CREDIT CARD ☐

NAME: _____

ADDRESS: _____

POSTCODE: _____ TEL (DAY): _____

VISA/ACCESS/MASTERCARD/DELTA/SWITCH NUMBER:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

EXPIRY DATE: _____ SWITCH ISSUE NO.: _____

SIGNATURE: _____

CREDIT CARD ORDER LINE – 01487 773582

OR FAX YOUR ORDER – 01487 773581

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Paying by CHEQUE or POSTAL ORDER – please make payable to COMPO Software Ltd and write your cheque card guarantee number on the back. All prices are inclusive of postage & packing and VAT. Please allow 28 days for delivery from when we receive your order. For non-receipt of goods phone 01487 773582, Monday to Friday between 10am and 6pm.

- | | |
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ST Source

THE PRACTICAL GUIDE TO WORKING WITH YOUR ST

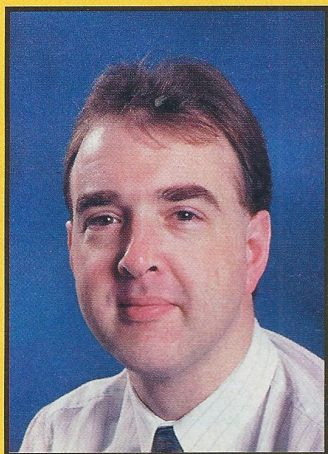
Slick Disk

Everything you need to know about working with floppy disks...

Inside

- 52 Start Here** – lots of info on tracks, sectors and disk capacities
- 54 Floppy Copy** – how to fit more valuable data onto your disks
- 56 Dual Drivin'** – what difference does a second floppy drive make?
- 58 Good Buy** – round up of budget copiers and formatters
- 61 Bug Ridden** – the ins and outs of computer viruses
- 64 Language Barrier** – make your ST a jargon-free zone!

**Dedicated
16 page
section**



All about floppies

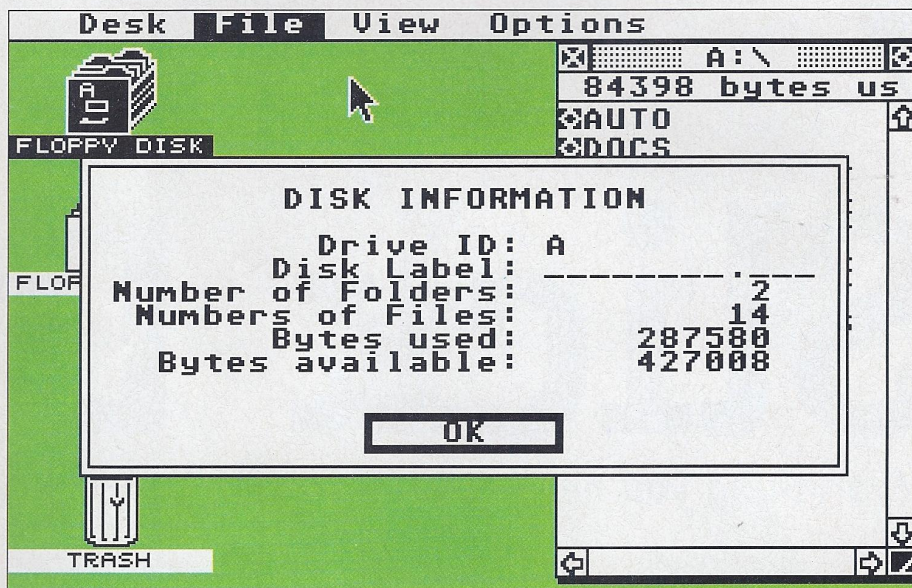
Welcome to the third issue. From the feedback we've been getting, the tutorial style approach of ST Source has been going down well with new Atari owners as well as old hands. If you're a regular Source reader and something puzzles you, write in or ring us and let us know. We're here to help.

Despite the widespread use of hard drives and CD-ROMs, floppy disks are an essential part of modern computing. To get software in and out of your Atari, you need the floppy disk drive which is why we're about to tell you everything you've ever wanted to know about that gaping slot in the right-hand side of your ST's case – and the strange slab-shaped things that fit into it.

You may have wondered about getting a second drive – Nial Grimes' article shows you what you're missing. And if you want to get right inside the plastic surrounding those floppies you've collected, we should be able to show you a thing or two. Without taking them to bits, of course.

Andrew Wright, Assistant editor

Disks



Sometimes numbers don't add up – 287,580 and 427,008 add up to about 11Kb short of the 726,016 bytes you'd expect on a blank disk. This is because the operating system deals in clusters (two sectors) as the smallest available unit. Each file is allocated as many clusters as it needs for storage but any spare space left over is ignored by the operating system.

In the most flagrant abuse of alliteration in the magazine yet, Andrew Wright discusses disk dynamics in depth.

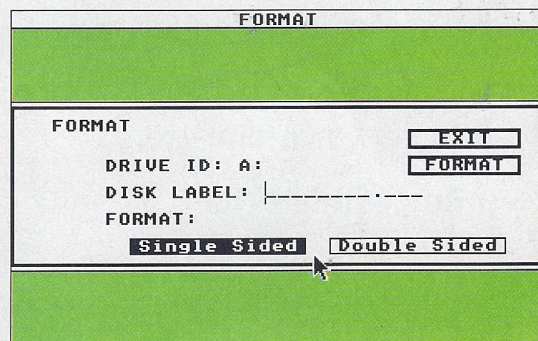
The first thing you have to do when you buy a brand new floppy disk is to format it. But what does that mean? A new disk is completely blank – no computer can read it or write to it. Before you can do that, your computer has to make space for the digital data by dividing the disk into sections. Most computers format disks in different ways although Atari's GEMDOS follows the IBM format quite closely. Don't forget that you can only format double density ("DD") disks and not the newer high density ("HD") disks, unless you have upgraded your drive or you own a late model Atari such as a MegaSTe or Falcon.

When you format a disk from your ST's desktop it will have one or two sides, each with 80 concentric tracks

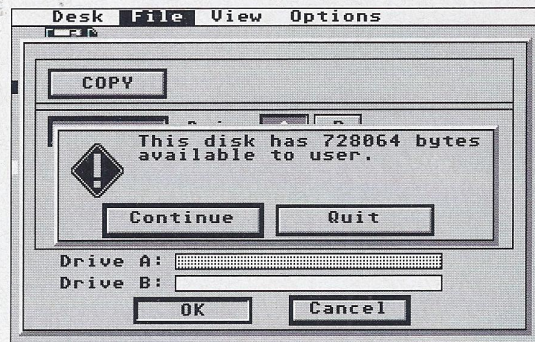
containing nine sectors. The very early models had drives that were only capable of using one side of a disk though the vast majority can use both, hence the term "double-sided disk drive".

Now each sector stores 512 bytes of data so a double-sided disk can store 2 x 80 x 9 x 512 bytes which gives us a

Many older machines have single sided drives – this is the format dialogue box for TOS 1.0. Note it has no disk copy option.



dissected



storage capacity of 737,280 bytes.

However, some of the disk is used for information about the layout of the disk itself. Track zero on both sides is used for this, 18 sectors in all. The first sector is called the "boot sector" (which, you will recall, is always examined by

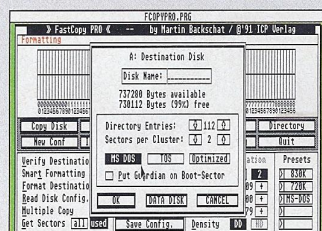
On later versions of TOS (here 4.04 on the Falcon) the free space is correctly calculated.

Across the divide

What happens if you want to swap data with other computers? The ST was meant to be fully DOS compatible but Atari kept getting it wrong. With TOS 1.04 and 1.6x things got better and most machines will read and write to PC-formatted disks.

The problem lies in the media descriptor byte which should be present in the FAT itself for MS-DOS to read the disk properly. TOS 1.04 doesn't put it in the right place and some PCs don't like it. For true compatibility you need a formatter that recognises the problem like Fastcopy Pro – or a Falcon of course, which is fully MS-DOS compatible as far as disks are concerned.

There is a widely held misconception that MS-DOS formatted disks can't be attacked by ST viruses. It's simply not true but it has led to lots of people formatting disks for MS-DOS. You gain an extra 2Kb of disk space but the disks themselves are read and written to more slowly, so there's little advantage.



Programs like Fastcopy Pro can write truly MS-DOS compatible disks.

TOS when your ST boots up and is a likely location for viruses) and there are five sectors for each of the two File Allocation Tables or FATs plus seven for the root directory. Subtracting these 18 sectors from 1,440 leaves us with 1,422 sectors or 728,064 bytes free for our data.

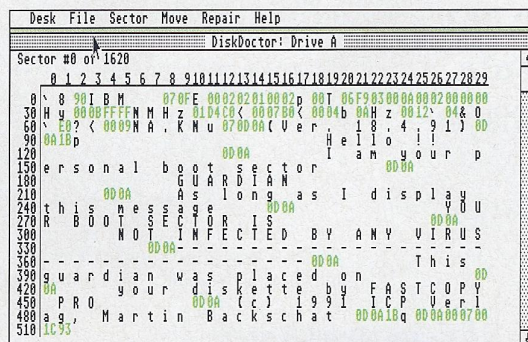
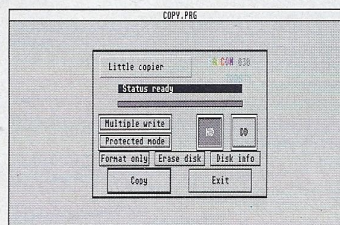
Now if you actually format a disk from the desktop it will tell you that only 726,016 bytes are available unless you have TOS 2.0x or above. The missing 2,048 bytes are still there but due to a small bug in GEMDOS they're hidden from view on earlier machines.

Have you ever wondered why they're called 720Kb disk drives? Well there are officially 1,024 bytes in a kilobyte, so divide the theoretical storage of the disk by 1,024 and you get 720.

Here's another interesting snippet. There are seven sectors for the root directory but as the ST needs 16 bytes to store each file or folder name, a standard disk can only have 112 files or folders in the root directory. You can store many more in separate folders as the information on these is stored in the main data area so it's a good idea to get into the habit of creating and using folders.

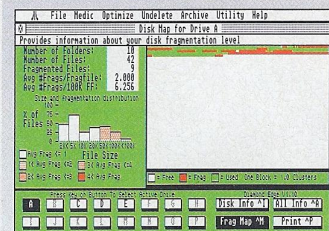
The Little Copier, a freeware utility for Falcon owners.

DiskDoctor, a sector editor, showing the executable anti-virus message put in a boot sector by Fastcopy Pro.



Top tip

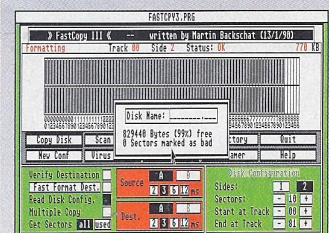
Any disk you write to a lot is bound to get fragmented. This includes data disks for your word processor or DTP programs. The files will be spread over different non-contiguous sectors and reading them back will get slower and slower, perhaps by 20% or so. You can defragment them quickly and safely by making a back-up copy, then file-copying the contents to a second blank disk. That way the files are kept together and data transfer is speeded up considerably.



This floppy needs a good overhaul according to Diamond Edge. Not that you need Edge to do it...

More space

For most people, 720Kb never seems enough. If you need more, you can take advantage of the ST's unusual flexibility in this respect. It probably won't mind if you add a couple of extra tracks to each disk and a couple of extra sectors in each. The maximum capacity will depend on the make of the drive mechanism that sits inside your machine. These 82 track 11 sector disks will hold 915,968 bytes but they can prove a little less reliable!



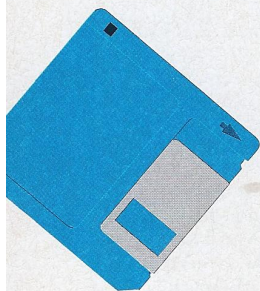
This 81 track 10 sector disk will hold 829,400 bytes of info – 14% more than a standard disk.

The safest extended format is the standard 80 tracks but with 10 sectors instead of 9. This gives you a capacity of 812,032 bytes free without much risk at all. If you want a rundown of the programs that can achieve these formats for you (you can't do it from the desktop) look at Nial Grimes' round-up later in the section.

Copy the floppy



Andrew Wright
shows you how
to copy those
valuable disks.



There are two distinct ways that you can copy a disk: from the desktop or via a dedicated copying program.

If you have TOS 1.04 or above, you can use the desktop copying facility that is accessible from the "Format..." menu. With earlier versions of TOS there simply isn't this option so you drag floppy disk icon A onto floppy disk icon B and initiate much the same procedure.

Assuming you have a single drive and a recent version of TOS, here's how you copy a disk via the desktop. First of all select the drive A floppy disk icon and click on "Format..." under the File menu (figure 1) just as you would if you were formatting a disk.

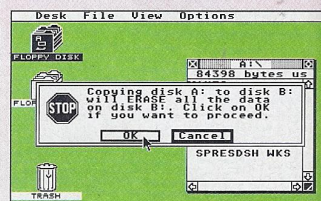
Drag and copy

You can approach disk copying in a slightly different way by selecting the floppy drive A icon and dragging it on top of floppy drive B icon. Click on "OK" on the resulting (more relevant) warning dialogue box and you get the same copy/format dialogue box that you would get if you had selected Format... from the desktop menu. From thereon in the procedure is the same.

You can also drag a floppy disk icon and deposit it on top of an open window. This produces a file copying operation and is useful if you simply want to add the contents of one disk to another without over-writing the original contents of the destination disk.



Another way to copy a disk is to select the drive A icon...



... and drag it onto drive B.



The next thing you'll see is a warning dialogue (figure 2) appear just in case you're about to do something permanently horrible to a valuable disk. Don't worry – you're not going to format the disk in drive A at all, you're going to copy it but just in case you press the wrong button, it's a good idea to write protect it by sliding the black tab on the floppy disk itself so that you can see through the little hole. Remember – see through is see-cure.

Click on OK and you'll come to the format/copy dialogue box (figure 3). Select the Copy button. The dialogue box changes slightly (as in figure 4). By default, disk B will become your source disk (the one you want to copy from) unless you select disk A by clicking on the relevant box. If you click to make drive A the source, ensure you've got the right disk in the drive (the one you want to copy) and click on "OK".



The data on the source disk currently in drive A will be read into memory (figure 5). You will then be asked to insert the destination disk B into drive A and the data will be written to it. There is no warning dialogue box at this stage – any disk you put in the drive at this point will be mercilessly reformatted and have the contents of the original disk written to it so this is the time to double check.

On 1Mb machines this will usually be done in one go but if you have a 0.5Mb Atari, you may have to swap disks more than once.

The problem with this method is that the destination disk can only have 80 tracks with nine sectors. If your source disk has a slightly non-standard structure – such as 80 tracks with 10 sectors for example – you won't be able to carry out the copy operation and you'll get an explanatory error message.

Figure 1: Click on "Format..." under the File menu...

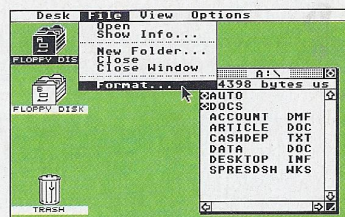


Figure 2: ... and click on "OK" to proceed.

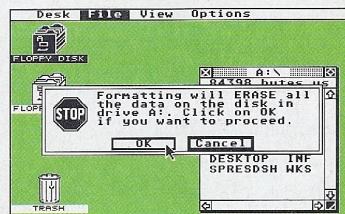


Figure 3: From the format/copy dialogue box...

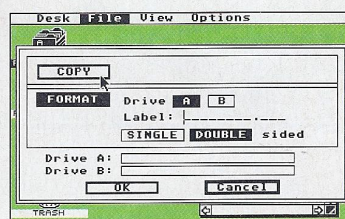


Figure 4: ... select the source disk...

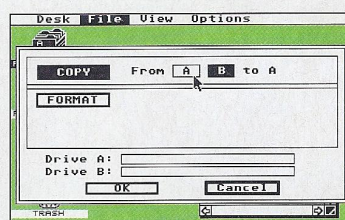
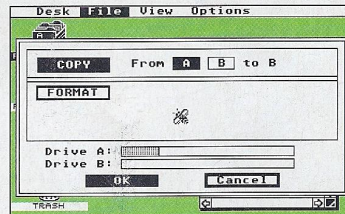


Figure 5: ... and start copying!



Fast and loose

By far the best way to copy disks is to use a special disk copying program. If you can afford it, Fastcopy Pro is about the best but later in this section Nial Grimes has a few alternatives. Fastcopy 3 is an earlier version of Fastcopy Pro but it's freeware and has a number of useful features.

The interface is divided into five separate areas. The top part is the graphical representation of the disk while the ten central command buttons (selected using the ten function keys) offer various options. The three lower sections are: extra copy/format options, drive parameters and disk structure.

In theory Fastcopy will format disks with up to 86 tracks

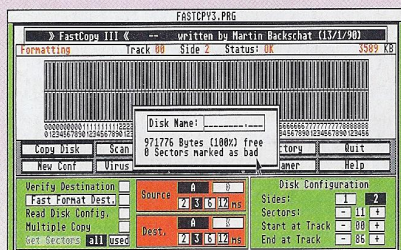
and 11 sectors (969,728 bytes) but not all drives will cope. The most useful commands, apart from Copy and Format, are Soft Format and New Conf.

Soft Format simply formats the first track, creating new, blank FATs and root directory. In fact the data is still on the disk but no longer accessible to the operating system. It is a quick way of reusing a disk without deleting everything on it. When you select Soft Format, you will be offered a choice of Keep or Take the disk settings. Always choose Keep as this means the disk structure isn't changed – avoid Take unless you know what you're doing.

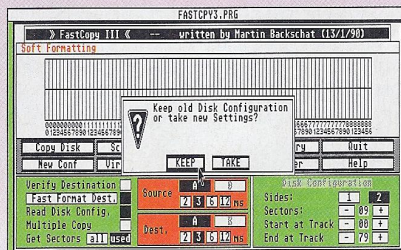
One unusual feature is New Conf. This cryptic command hides a powerful facility for transferring data from crowded

disks onto roomier ones. For example, let's say you want to add a couple of point sizes to your Timeworks font disk, a standard 80 track, 9 sector disk. Unfortunately it's full. You could remove a few less used font files – or you could copy the fonts onto another disk with more space, perhaps one formatted with 82 tracks of 10 sectors (giving another 100Kb of space).

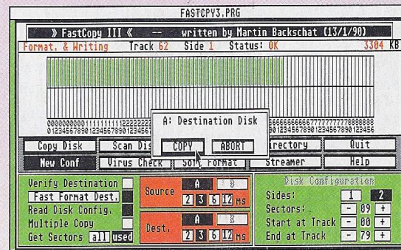
To do this with Fastcopy you simply select New Conf and the data on the overcrowded disk is copied directly onto the new extended format disk. You can do this with single sided disks as the data can be quickly copied onto double sided disks. It really is an invaluable feature, particularly as the program is freeware.



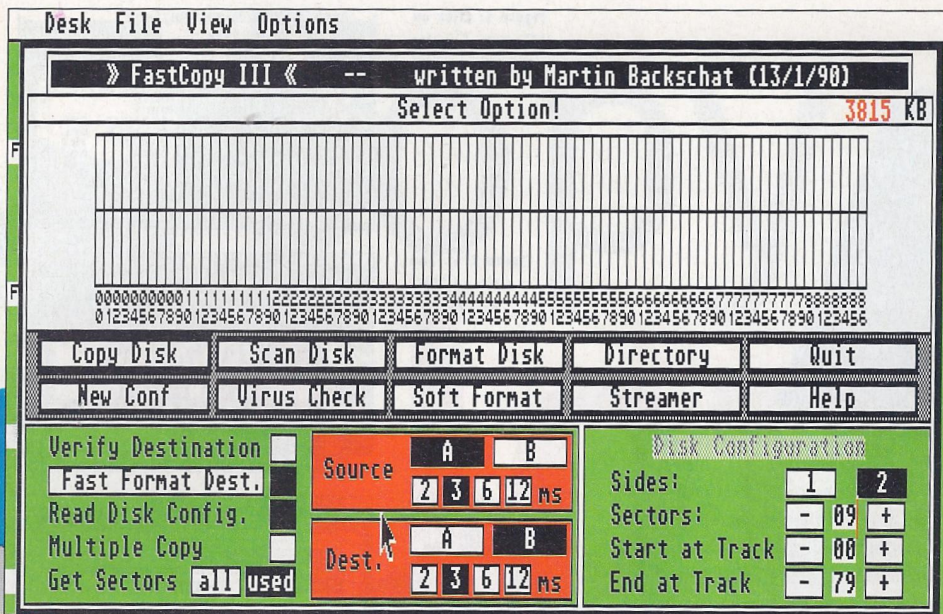
Fastcopy supports extended formatting.



Choose Fastcopy's "Keep" option to avoid changing the disk structure.



Here's a single-sided disk being copied to a double-sided disk.

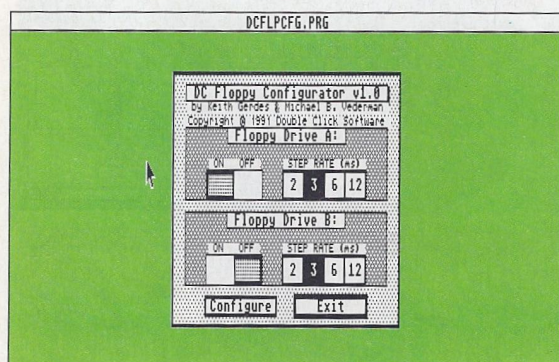


Nial Grimes unlocks the mysteries of the external floppy drive...



Programs such as FastCopy 3 are much improved by an external floppy drive.

Driving the



Public domain utilities that kick drive B into action after the ST has started up are invaluable.

It's a good idea to format a disk as soon as your new drive is in place, just to check that everything is running smoothly.

Available options

Most of the hardware suppliers that advertise in Atari World will be happy to sell you an external disk drive. Prices vary, but you can expect to pay about £50 for a good quality drive.

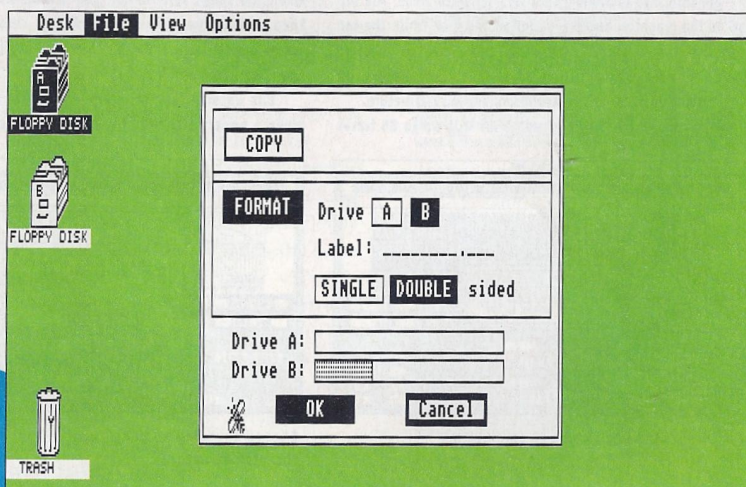
Alternatively, quite a number do appear on the second-hand market as ST owners upgrade to a hard disk. They are reliable devices, so there's no need to fear buying second hand, but take a look at the general condition and adjust the price accordingly – £25 is about right for a good example.

A second disk drive is one of the most economical upgrades available for the ST and yet it can really improve the performance of the applications you use every day.

Essentially, it doubles the amount of storage space immediately available to your ST. That means that you don't have to fiddle about swapping disks when using your word processor or art package, because both the program and data disk are instantly accessible by the machine. Using the desktop is also much easier, because copying files

between disks no longer takes umpteen swaps. FastCopy and other similar programs also reflect these benefits.

Some programs, such as Timeworks DTP, automatically use the second drive, while others will need a helping hand. In order to tell the difference between the two devices, the ST labels the internal drive "A" and the external "B". You can move between the two from the standard file selector box. Games and demos are a little more temperamental – many will pick up on drive B, but trial and error is the order of the day.



Buy me!

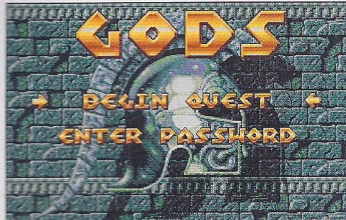
Choosing which drive to go for is relatively easy, because very little separates the various different brands. If you do have a choice, it's usually best to opt for a model with an external power supply, because the "joystick port" variety can place undue strain on the ST, and you wouldn't want to do that now, would you?

Unlike many upgrades, installation is a piece of cake, because every ST

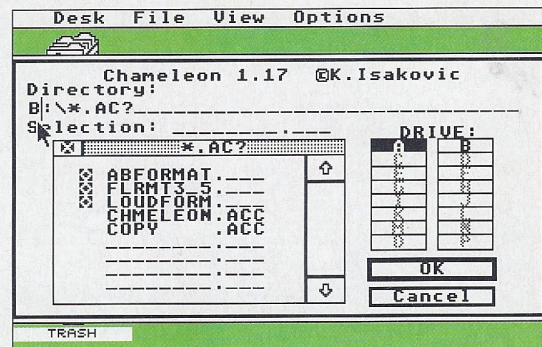
comes ready set up to accept a second drive. Take a peek at the back of your machine and you'll notice a large round port in the centre (icons have never been Atari's strong point) – your new disk drive goes here. You'll probably find that the cable will curl around and allow the unit to sit directly above the internal disk drive. Needless to say, any plugging or unplugging should be carried out with the machine switched off!

No software is needed to access your new toy – just switch it on before you power up the computer and it's ready to go. Although it is safe to turn it on at any time, the ST only checks for the presence of an external drive as it boots up, so you'll either need to reset, or use a public domain utility such as DC-Floppy.

You should now understand what an external floppy drive is and how it can



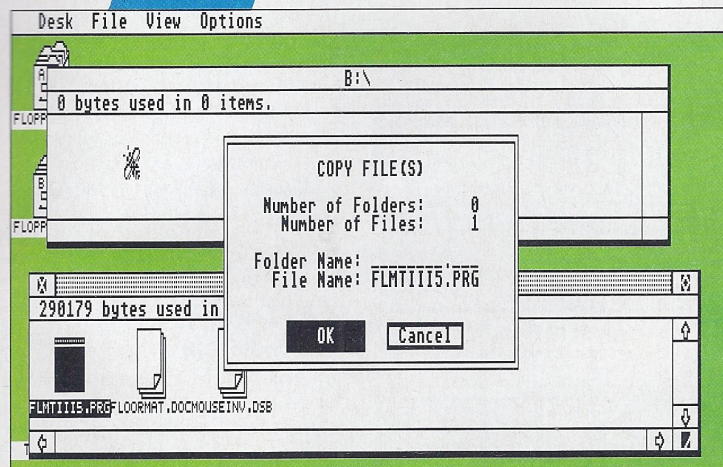
Many recent ST games and demos will support a second disk drive.



To save a file on the external drive, change the A in the "directory" line to B.

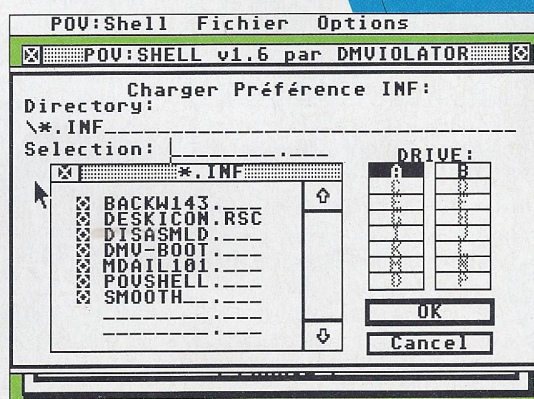
improve your ST system. For most users, it is worth the the £50 outlay, and that's especially true if you spend any amount of time working with the desktop. In fact, "once driven, forever smitten" is the phrase that springs to mind (but the editor will never buy that)...

imagination.



Frantic disk swapping becomes a thing of the past when you add a second drive to your ST system.

Later machines include a drive button panel, which means you can switch to B with a single click.

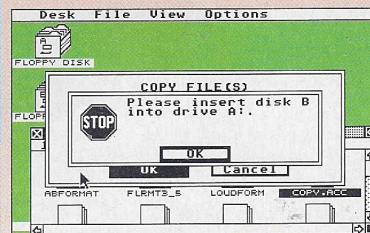


Wot no drive B?

The ST is rather clever when it comes to working with a single disk drive. Instead of refusing point blank to allow files to be copied between two different disks, it improvises and just pretends that it's got a second drive.

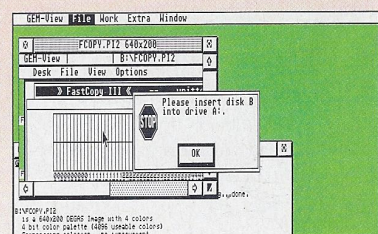
For instance, open a window for drive A and drag a file to the "Floppy Disk B" icon. You'll notice that a dialogue box appears, requesting that you "Insert disk B". What actually happens is that the ST realises that it hasn't got a drive B to use and temporarily uses A instead. To all intents and purposes, the main disk drive is "B" until the ST asks you to "Insert disk A" again.

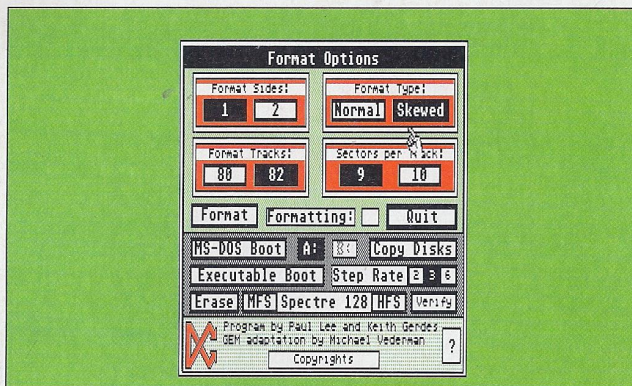
It does sound confusing at first, but experiment by copying a few files around on the desktop and you'll soon understand what's happening. This "virtual" drive principle comes in handy when working with certain applications that access the disk drive frequently; if you save your documents to disk B, the ST will ask for disk A when it wants to read the application disk.



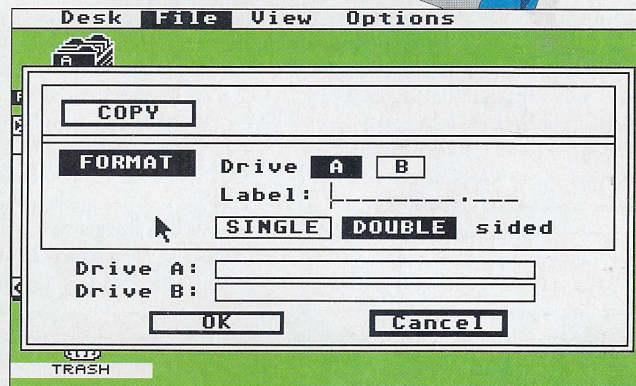
Your standard ST improvises when a second drive isn't available by displaying the message to the left.

By saving your data to disk B, you can keep most disk-hog applications happy.





Most programs offer a "twisted" disk format that can speed up access dramatically.



The ST's in-built copier is inflexible and quite slow but, thankfully, alternatives are plentiful.

True to form...

Nial Grimes shows you how to turbo-charge your ST with the help of a modern disk copier and formatter...

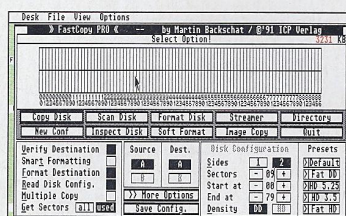
The ST's desktop has taken on a number of improvements over the years but the built-in copying and formatting facilities remain decidedly "retro". Sure, they work reliably, but proper formatting and copy programs can offer so much more – they will allow you to squeeze more data on a disk, and will also get the job done in a fraction of the time. In addition to that, most utilities can actually speed up disk access across the board, by rearranging – or "twisting" – the sectors on each track!

Yes, whether you realise it or not, the quality of your computing life can be significantly improved by the use of a good copier and formatter. Let's take a look at what's available...

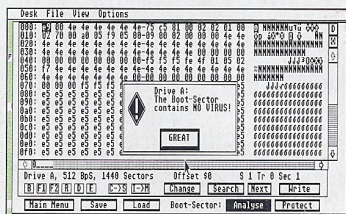
FASTCOPY PRO

Fast Club • 0115 9452520

FastCopy Pro is the Ferrari Testarossa of disk copying programs. It can format, duplicate, virus check, edit and erase disks at a speed that leaves most other programs standing and is even kind enough to run as a desk accessory. Add



FastCopy lives up to its name, and once tried you won't want to use anything else.



A virus checker and disk editor are just two of the features that place FastCopy Pro ahead of the competition.

to that the ability to change the format of a disk during a copy and you are looking at a serious piece of kit.

Despite its power, FastCopy is easy to use and progress is displayed track by track in a graphical display at the top of the screen; any errors are highlighted in red.

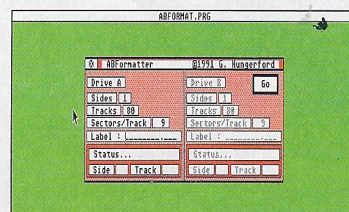
If you can't quite justify the cost of Pro, FastCopy 3 is still available as free-ware. It too runs as an accessory and includes almost as many useful features as its big brother.

Score: 8

ABFORMATTER

Public domain

A second disk drive can save an awful lot of time when it comes to copying disks and this neat little program extends the benefits to formatting. Quite simply, it allows you to format two disks simultaneously, and still manages to put on a pretty good show of features. Both single and double-sided formats are supported and you can also



ABFormatter can handle two floppies at a time if you've got a second disk drive.

up the number of tracks if you are feeling particularly brave.

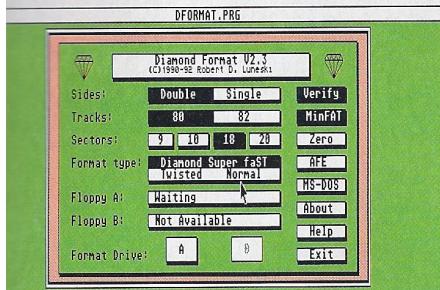
The ultimate test of the program has got to be speed, and it just about squeezes through with a C+. Without getting too bogged down in figures, ABFormatter saves about ten seconds per disk, and that doesn't include swapping time. Added to which, you can nip off for a cup of tea and find two disks ready for use on your return...

Score: 5

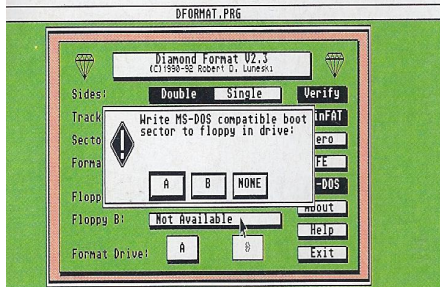
DIAMOND FORMATTER

Troutware

Floppy disks can be slow at times, and so any program that claims to speed them up has got to be worth investigation. Diamond's secret is a new format



Diamond's "Super faST" format is very nippy and the difference is especially noticeable when loading big programs.



MS-DOS compatibility means you can swap data with PC-owning friends ("friends"? - Ed).

called "Super faST" which is around 20% quicker than a regular "twisted" disk. You need no special software to access these "super-floppies" and tests do seem to justify the claims.

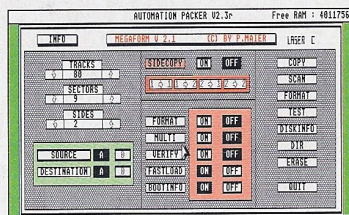
Beyond this, Diamond can also format MS-DOS compatible disks (for exchanging data with PCs and Macs) and will even sit happily in an accessory slot given enough memory. It's worth getting hold of for the "Super faST" option alone and the author only asks for a fishing fly in payment...

Score: 7

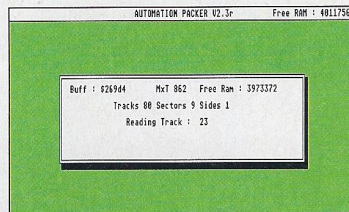
MEGAFORM

Shareware

Megaform tries desperately to shake off the dull copier image by attaching a sound effect to each and every button.



Megaform combines a good range of copying features with outlandish sound effects.



Peeeeeeowww - hmm, these sound effects don't come across very well on paper, do they?

As gimmicky as this may sound, it does come in useful at times - a space siren is enough to tell you that it's time to wake-up and pop the next disk in the drive.

Fortunately, the sound effects aren't used as an excuse for a lack of power. Megaform will format to any workable capacity and can even test your drive to see how many tracks it can safely use. Multiple copies, disk scanning and verification are all performed with style and the Star Trek mouse pointer is rather cute too.

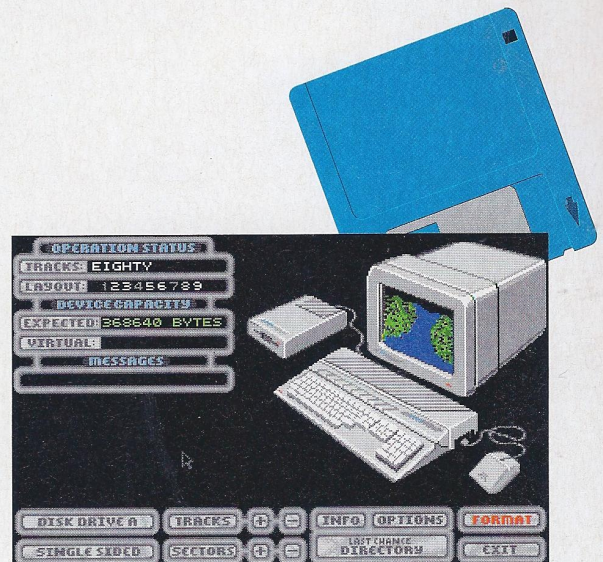
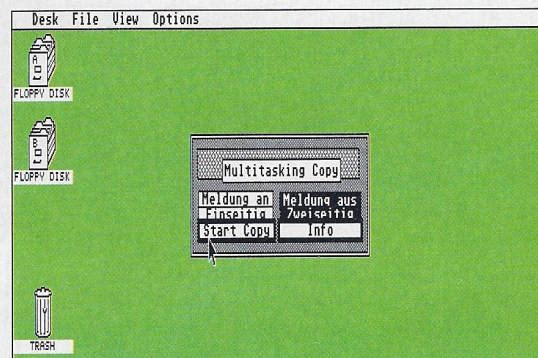
It's a fact that most copy programs sit well and truly in FastCopy Pro's shadow and Megaform is no exception. However, it packs enough features to keep most people happy and the sound effects may be a novelty, but I like them, OK?

Score: 6

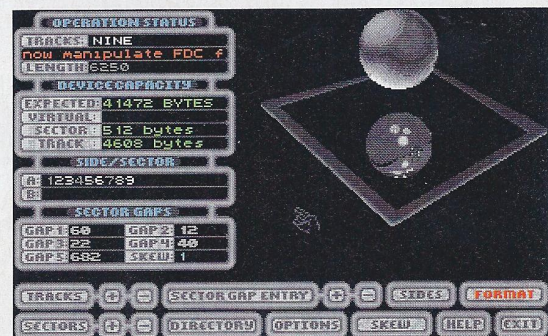
MULTITASKING COPY

Public domain

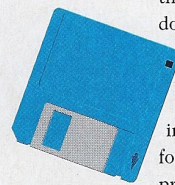
Waiting for disks to copy is a real bind, but it becomes a problem of the past when you install this neat little desk accessory from Germany. Multitasking Copy duplicates disks in the background and therefore allows you to continue working with your word processor or just about any other application for



The icons are a little bit obscure but the "Help" button reveals all...



The custom format designer is techie stuff indeed but very powerful all the same.



that matter. Thankfully, it doesn't slow down the machine too much and uses next to no memory, but the duplication process takes longer than it usually would - an awful lot longer, in fact. However, as you're not waiting for it to finish, it's not so much of a problem.

Score: 3

FLOORMAT 3.5

Shareware

Floormat tries hard to break out of the standard formatter mould, by using a colourful, picture laden interface. All of the usual sector and track adjustments are available along with a custom format designer for ultimate control. It can even handle virus killing and although the program is almost entirely icon driven, you can find out what each little button does by clicking on "Help".

Many of the unique features offered by Floormat will never be exploited by the average ST user, but just about everybody can enjoy the colourful interface and superb documentation...

Score: 5

PROTEXT 6.5

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For 7 years Protext has been the word processing choice of the discerning Atari owner.

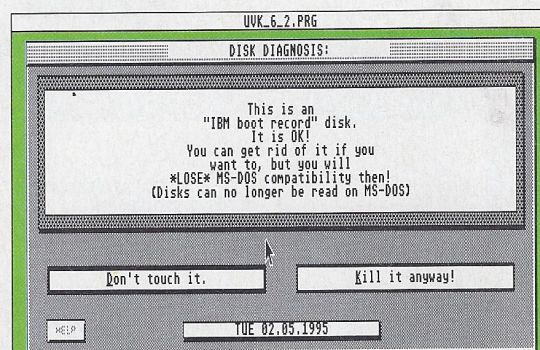
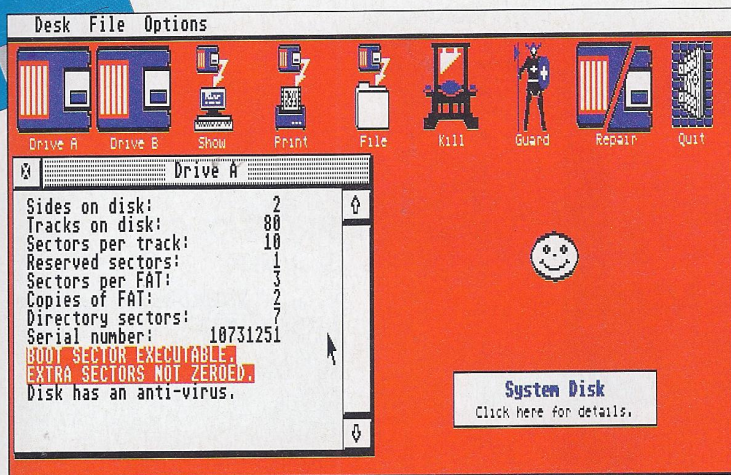
Fast, no nonsense, it gets the job done. No other Atari software comes close for speed and flexibility.

Please call for further information.
For Atari ST, TT or Falcon (1Mb required)

The logo for Arnor Ltd, featuring the word "ARNOR" in a stylized, outlined, sans-serif font. The letters are interconnected, with the 'A' and 'R' sharing a vertical stroke, and the 'O' and 'N' sharing a vertical stroke. The 'R' and 'O' also share a vertical stroke. The logo is positioned above a horizontal line.

Arnor Ltd (AW), 611 Lincoln Road, Peterborough, PE1 3HA. Tel: 01733 68909. Fax: 01733 67299

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A quality exxos scan 01/03/2014 <http://exxos.www.idnet.com/IMPULSE/atari/last/>



Above: Checking for viruses is very straightforward with the right software.

Left: A virus killer can scan a floppy or hard disk for any signs of infection.

Germ Warfare...

Are computer viruses a serious threat to your ST? Nial Grimes dons the rubber gloves and explains how you can avoid and remedy an infection...

Viruses are the cat-burglars of the computer world. Their sole aim in life is to find their way onto as many disks as possible before exploding into life. Contrary to popular belief, this doesn't involve any form of black magic or voodoo. In fact, a virus is a program much like any other; it just loads itself without your knowledge. Once in place it will usually attempt to duplicate itself a number of times before moving into a destructive phase, which is signalled by a silly message on screen, a trashed hard disk or, if you're lucky, something in between.

Computer viruses live in one of two places: on the boot sector of a floppy disk, or in a program file. The first type swing into action when you switch on your ST with an infected disk in the drive, whereas program – or link – viruses are installed when you run an infected program.

A viral attack needn't spell disaster for your system provided you take reasonable precautions. In fact, many problems can be avoided by simply understanding a little about how they work. Deep down, viruses are just poor little misunderstood programs whom nobody loves. That means they can be flushed from memory simply by cutting the power. The write protect tab, if enabled, can also stop any intruder dead in its tracks, and don't let anyone tell you otherwise.

However, for absolute peace of mind, the best line of defence is a virus checker. Ideally you should "scan" each

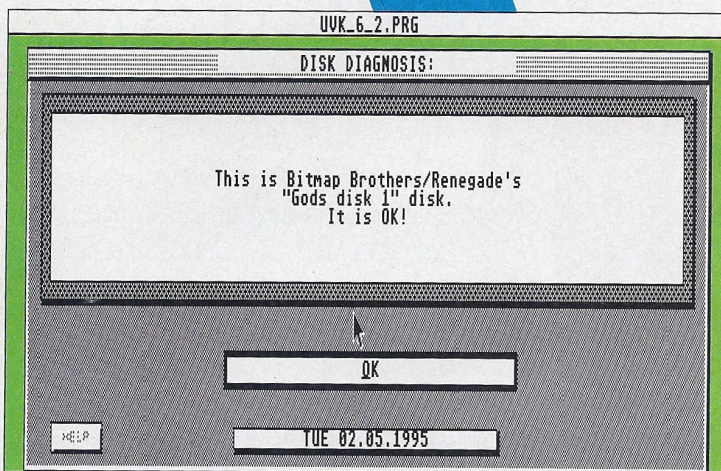
and every new disk you get before running the software it contains. That means starting up your ST with a healthy, uninfected floppy in the drive and checking new arrivals for both boot sector and link viruses. Unfortunately, some legitimate programs (particularly games and demos) also use a disk's boot sector, so you do need to be careful when applying the "cure".

Help – I'm infected!

Let's assume that your ST has been suddenly hit by an infection – the mouse pointer is going haywire and it's obvious that the Ghost Virus is loose somewhere in your disk collection. What do you do?

The first step is to confirm your suspicions by using a virus checker. Power down your ST for at least thirty seconds and turn it back on without a disk in the drive. The desktop will appear after a while and you can now be sure that there is no virus hiding in memory. Run your checking software and if a problem is found, it's time to kill the little blighter. Every single disk in your collection now needs to be checked (bearing in mind what we've already said about game and demo disks) and disinfected if necessary. It's wise to make a backup of any important disks before attempting repairs.

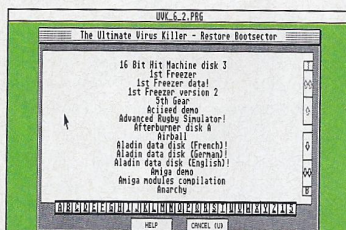
The chances of you losing a file to a virus are small. By implementing a simple virus scanning routine, you can scale those odds down to virtually zero. Think about it...



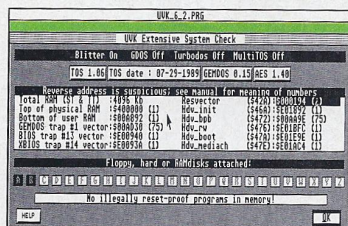
UVK 6.2

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The Ultimate Virus Killer is generally regarded as the leader in its field, and rightly so. It detects no fewer than 84 different strains and can dispose of every single one of them with a few simple mouse clicks. And that's not the end of the story – dozens of other innocent boot sectors are also recognised, meaning you are less likely to accidentally ruin your games collection. These features are wrapped up in an interface that is simplicity itself to use and the on-disk manual is comprehensive enough to sort out any problems that you might have. UVK is the ultimate peace of mind – it's as simple as that. **Score: 8**



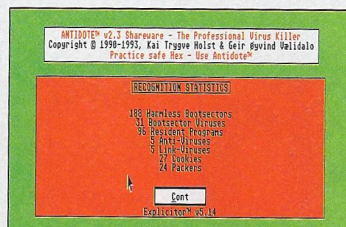
UVK can restore the boot sectors of many games, thus reversing damage caused by virus infection.



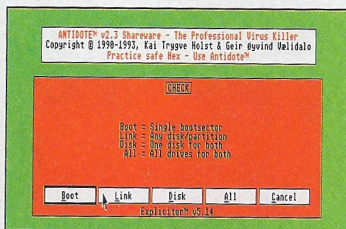
Memory is searched thoroughly for any signs of infection – this machine passes with flying colours.

ANTIDOTE Shareware

Antidote is very similar in style to early versions of UVK and shares most of its



Antidote mimics many of UVK's features, but it can't identify as many viruses.



Boot sector and link viruses are catered for and the scanning facilities are good.

features. As you'd expect, it falls a little short of its commercial counterpart in the detection stakes, but still manages to recognise 36 boot sector and link viruses. Thankfully, it can also identify some other boot sectors, and therefore

Some virus killers also recognise games and demo disks, so there's less chance of you causing any

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The Language

Atari World presents more exclusive excerpts from Mark Baines' definitive A-Z guide to the Atari.

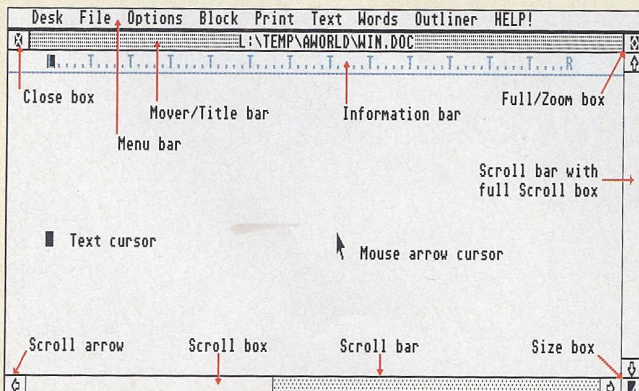
This month we present the third of six excerpts from Mark Baines' A-Z, the essential guide to everything to do with Ataris. Note the word excerpts – the full text runs to nearly 130,000 words and is aimed as much at the beginner as it is the experienced Atari user. It really is a case of everything you wanted to know about your Atari but were afraid to ask! Check out our review on page 25 of this issue.

If you want the complete guide, you can order Mark's book direct from Linnhe Computing, Shore Street, Inver by Tain, Ross-shire IV20 1SF or telephone (01862) 871624. Remember, if it isn't in the Atari A-Z, it probably doesn't exist!

F

FONTGDOS

FONT Graphic Device Operating System. An updated version of GDOS with some extra features such as *bézier* curve support, font caching and faster printer drivers.



It is essentially the same as FSMGDOS but can't handle scalable outline fonts.

FPU

Floating Point processor Unit. A coprocessor designed to perform floating point mathematical calculations (maths involving fractions and decimal points) at great speed and relieving the main processor of those tasks.

Front end

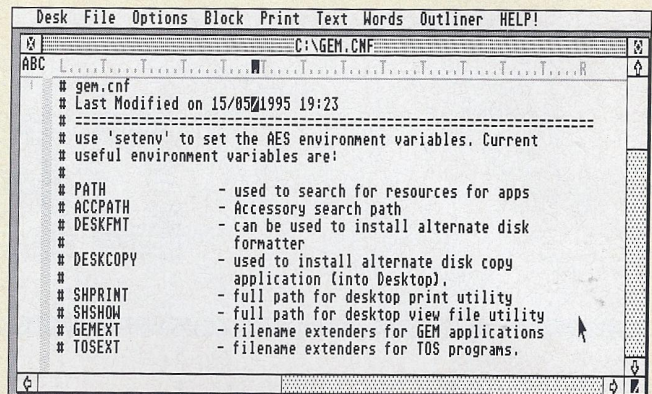
A program through which a user can directly control the operating system and the way the operating system communicates with the user, such as the GEM desktop.

FSMGDOS

Font Scaling Module Graphic Device Operating System. A replacement for GDOS allowing use of scalable outline fonts as well as GDOS bitmapped ones. It was to be available at the end of 1992 but was replaced by SpeedoGDOS using the scaling technology of the Bitstream Speedo Font Scaler.

Full box

The icon in the top right-hand corner of a GEM window which, when clicked, will open the



window to the maximum size of the screen and when clicked again, back to the previous size. It is sometimes referred to as the zoom box.

GEM.CNF. If using MultiTOS, the GEM.CNF needs to be edited but be careful to save the file in ASCII mode if using a word processor.

FUNNEL

An Atari chip for the TT that helps the processor communicate with the memory chips.

G

GDOS

Graphic Device Operating System. A part of GEM contained in a separate file, such as GDOS.PRG. It contains functions for font and graphics screen display and printing, allows the creation of metafiles and provides support for various output devices up to a resolution of 32,767 x 32,767. It allows graphics to be printed at the highest resolution of the out-

put device. The program must be in the AUTO folder and loaded at boot-up when it reads an ASSIGN.SYS file in the root directory.

GEM

Graphics Environment Manager. A graphics-oriented operating system front end developed by Digital Research and present in STs, TTs and Falcons. It consists of two major subsystems, the VDI and the AES.

GEM.CNF

A text configuration file loaded at boot-up and processed by the AES when running under MultiTOS. It is used to set some AES system and environment variables and to execute GEM programs.

GEMDOS

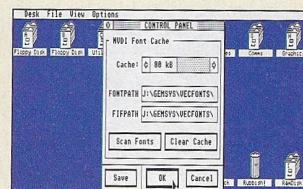
Graphics Environment Manager Disk Operating System. A part of TOS which is concerned with the disk management, memory allocation and the facilities required to run programs that are traditionally available in any operating system.

GEMSYS

Traditionally the folder where GDOS fonts are stored.

GLUE

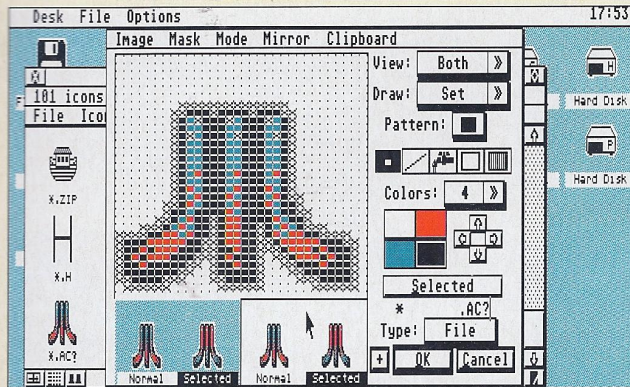
Atari custom chip that "glues" all



GDOS. The fastest screen accelerator NVDI 3 has SpeedoGDOS compatibility thrown in for good measure!

Full box. The full box is one of several GEM window gadgets mentioned within these pages.

Barrier L



Icon. NeoDesk 4 comes with good icon editor capable of making animated icons with 16 colours.

the others together on the ST. It makes the timing signals that other chips, including the processor, need so that they all remain in step with each other. On the STe and TT, the GLUE and memory management chips were amalgamated into a single chip.

GTP

Gem Takes Parameters. The file name extension for GEM programs that can accept command parameters before being run in the same way as *.TTP programs.

GUI

Graphic User Interface. An operating system front end that is graphics-based and can be controlled with a mouse.

H

HD6301

The ST keyboard processor also responsible for the mouse and joysticks and containing a real-time clock.

High resolution

A relative term used to denote the amount of pixels or dots on a screen. On the ST range it refers to the mono monitor resolution of 640 x 400 pixels, whereas the TT

high resolution is 1,280 x 960 pixels.

I

Icon

A small picture representing a function, file, folder or hardware, such as a program file or a disk drive. The mouse is used to click on icons to bring about a particular function or event.

IKBD

Intelligent KeyBoard. The keyboard, mouse and joystick controlling hardware consisting of the ACIA chips and HD6301.

IMG file

A bit-image graphics file with an .IMG file name extender primarily associated with GEM and capable of being larger than the screen and automatically compressed to save disk space.

J

Jaguar

Atari games console launched in 1994 capable of fast true-colour graphics and CD quality sound and years ahead of the competition.

LAN port

The MegaSTe, TT and Falcon have an SCC serial port specially configured to operate as a Local Area Network (LAN) connector. This means it can connect to a network of other computers "talking" to each other. Unfortunately, at present, there isn't any software to support it.

Line-A emulator

GEM routines containing the simple graphics routines used by the VDI, such as drawing a line or box.

LMC1992

National LMC1992 Computer Controlled Volume/Tone Control chip in the STe, TT and Falcon, used to provide volume and tone control of the stereo DMA sound production.

Low resolution

On the ST and STe, 320 x 200 pixels with 16 colours or 320 x 480 with 256 colours on the TT.

Lynx

An Atari hand-held games console designed in 1987 with a small, sixteen colour backlit LCD screen, good sound and capable of being linked with others for multiplayer games.

M

MC56001

The fast Motorola DSP chip as fitted in the Falcon.

MC68000

The Motorola MC68000 16-bit microprocessor as fitted in the ST and STe (including Mega ST and MegaSTe). The ST has an 8 MHz device whereas the STe is twice as fast at 16 MHz.

MC68030

The Motorola MC68030 microprocessor as fitted in the TT and Falcon running at 32 MHz in the TT and 16 MHz in the Falcon.

MC68881

Motorola floating point coprocessor originally fitted to some TTs, standard on a MegaSTe and optional on a Falcon.

MC68882

Motorola floating point coprocessor fitted to the TT as standard and optional on the MegaSTe and Falcon. It is essentially the same as a MC68881 but about 1.5 times faster.

MCU

Memory Control Unit. Atari custom chip in the STe and TT which works like the ST MMU and GLUE chips and replaces them on the circuit board.

Medium Resolution

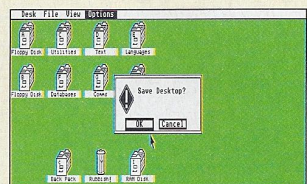
The ST's four-colour display of 640 x 200 pixels or sixteen colours at 640 x 480 on the TT.

Mega ST

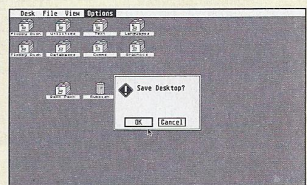
A version of the ST with separate keyboard, BLITTER, real-time clock and internal connector for a single expansion card. It came with TOS 1.02.



Low resolution. The standard ST 320 x 200 x 16 colours display. See how little is displayed compared to the other resolutions.



Medium resolution - twice the number of pixels but a quarter of the colours. A better screen display but could be better...



High resolution - 640 x 400 pixels but in black and white only. A crisp, clear display showing four times the area compared to low resolution mode.

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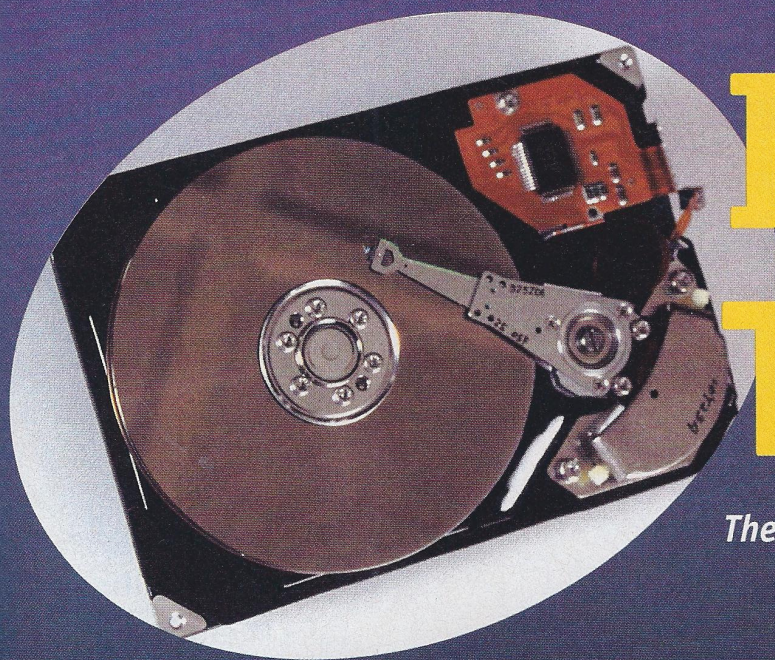
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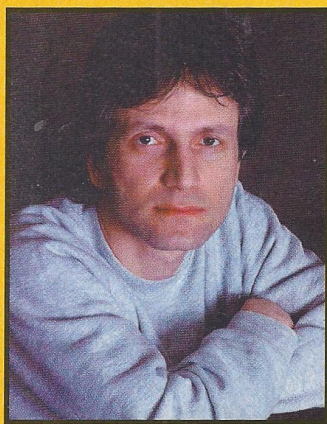
Hard Talking

The ins and outs of hard drives...

Inside

- 68** **Hard Facts** – theory and practise of hard disks and host adaptors
- 70** **Well Managed** – common maintenance plus TOS bugs explained
- 73** **General Store** – a look at SyQuests, magneto-opticals and Zip drives
- 76** **Good Buy** – full round-up of drives, software and host adaptors
- 79** **Answers** – Ofir Gal and his team tackle your Pro questions

**Dedicated
16 page
section**



The hard way

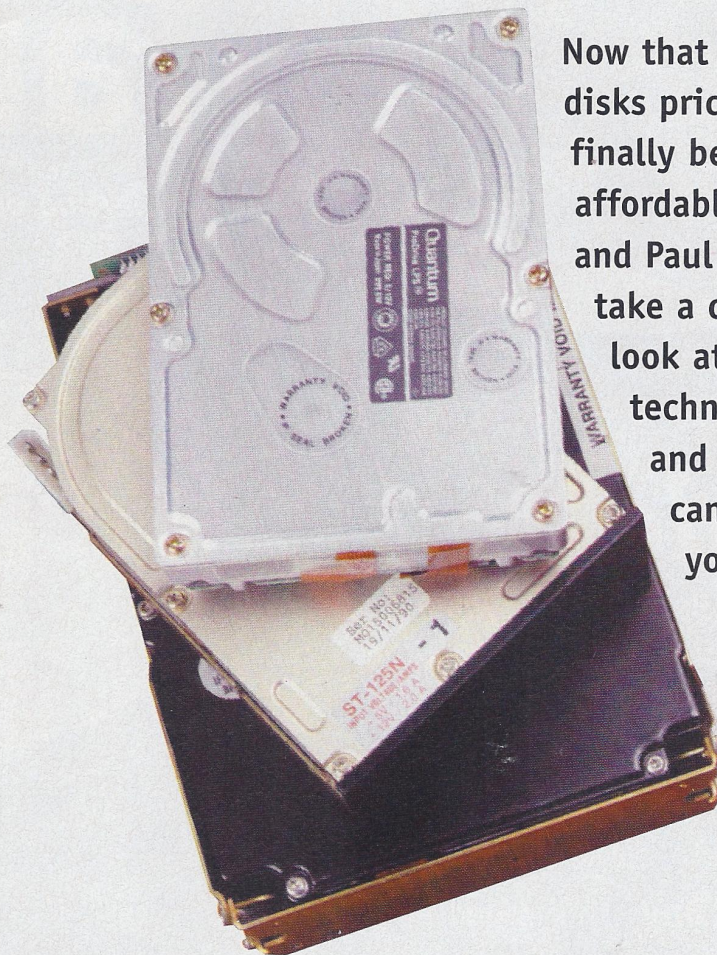
Having a hard disk is much more than just having a super-fast floppy disk. Speed, of course, is important. Booting up is quicker, loading programs is quicker and using alternative desktops becomes a reality. The mere fact that all your files and programs are located in one place means no more hunting for floppies under your desk.

The possibilities only open up after you get used to having a hard disk. You can setup your desktop so that double-clicking on a file icon automatically launches the program that created it. Multi-tasking and SpeedoGDOS based applications also become a practical possibility. In fact, it's only due to the extremely efficient design of TOS that many Atari users have been able to work without a hard disk so far. Other computer systems require a hard disk just to boot up!

In this issue of Atari Pro we cover the various aspects of using a hard disk with an Atari system. You will find all the information you need, from buying a hard disk and setting it up to managing the data on it. A big team of writers has collaborated on this, each contributing his own area of expertise, to bring to you a definitive guide to hard disks – how they work and how to make the best use of them.

Ofir Gal, Technical editor

How hard

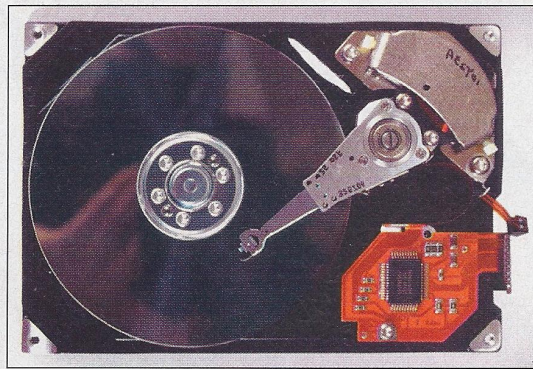


Now that hard disks prices are finally becoming affordable, Ofir and Paul Rossiter take a close look at the technology and what it can do for you.

A hard disk is a bit like a large and very fast floppy disk. Once installed it appears like a number of additional drives which normally show as drives C, D, E and so on from the desktop. You can open them with a double-click and save files into them just as you would with a floppy.

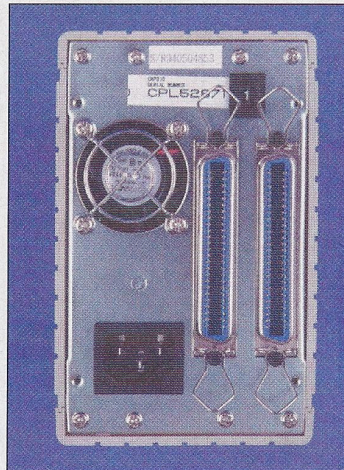
There are two common types of hard disks available today - SCSI and IDE. With the exception of the Falcon, which uses an internal IDE drive, all Atari computers use the SCSI protocol (see the box about host adapters). The technicalities of SCSI are only of interest to programmers. The most important factor to bear in mind is that SCSI allows for up to eight devices, including a computer, to be connected together. Each is given an ID, ranging from 0 to 7. It is normal practice to give the first hard disk ID 0. This is typically set via a switch at the back of the unit. Further devices can be connected in a chain. A device called a terminator is plugged at the end of the chain to prevent data corruption.

The last component required is a hard disk driver. This is a special kind of program that allows the computer and hard disk to communicate. Most hard disks are sold with such a driver. Once installed, you can reset your ST which will now reboot from the hard disk at a speed you won't believe the first time you see it.



The insides of a hard disk are not normally visible as the unit is sealed. This picture shows the platter and the read/write head. It looks like a record player with similar principles.

Most hard drive units feature two SCSI ports, to allow chaining additional devices, and an ID selector.



Host adapters

When first built, the ST was way ahead of its time in being able to drive SCSI peripherals. Unfortunately the Atari implementation of SCSI wasn't quite complete. To convert the signals from Atari's SCSI (ACSI) into true SCSI signals a converter or host adapter is required. The TT and Falcon have true SCSI ports so they do not require any additional adapters.

The adapters come in two main types, those built onto a circuit board for inclusion inside a hard drive case and the newer ones in a plastic box with a 50-way Centronics connector designed to plug into the back of a standard SCSI box.

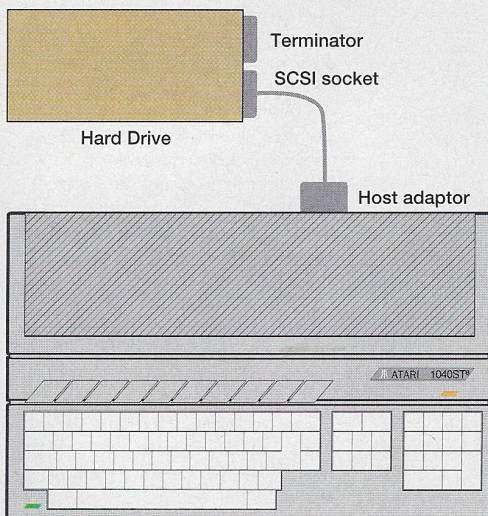
If you're building a hard drive system, beware of early adapters as they often couldn't handle parity enabled drives. Many modern drives cannot have the parity disabled and so refuse to work.

Similarly some makes of drive are not compatible with certain adapters so the moral is to check first before parting with any cash! The ICD Advantage adapters were the best around and can drive most devices - the Plus version even had a real time clock. The Protar and early Supra boards are notoriously particular in the drives they handle correctly.

Mega owners can fit a micro SCSI adapter which allows an internal drive to be fitted inside the Mega case. Beware the warnings above however as the micro SCSI doesn't like parity. The modern external adapters such as the ICD Link II can drive just about anything and are highly recommended.



The ICD Link II is one of the best host adapters available. It simply plugs in between the ST and the hard disk.



A typical SCSI chain. The computer is at one end, the drives at the other. Note the terminator at the end of the chain.

Hard disk mechanics

The pace of change in computing is nowhere faster than in hard drives. Ten years ago a typical drive was 10Mb in capacity, consumed 50 watts and was big and slow. Nowadays, a modern cheap drive is 500Mb, takes less than 10 watts and spins many times faster. The internal cache is often larger than a typical computer's main memory only a few years ago.

The principle of magnetic hard disks hasn't changed, only the manufacture has improved allowing greater recording densities by finer tolerances and using better materials. 4Gb in a 3.5" form factor is now common place.

Hardware

A hard drive consists of one or more platters. These are thin plates usually of aluminium coated with an ultra smooth layer of magnetic material. The whole assembly is hermetically sealed in a chamber filled with dry nitrogen - not a vacuum as is commonly supposed!

The heads, which are just tiny coils of wire, are mounted on a carriage that can move the heads across the surface of the platter. The heads remain stationary whilst the platter is rapidly spun beneath them. The heads are spring loaded and when at rest the heads touch the disk's surface. When spinning, air pressure forces the heads up and they fly a few microns from the disk's surface.

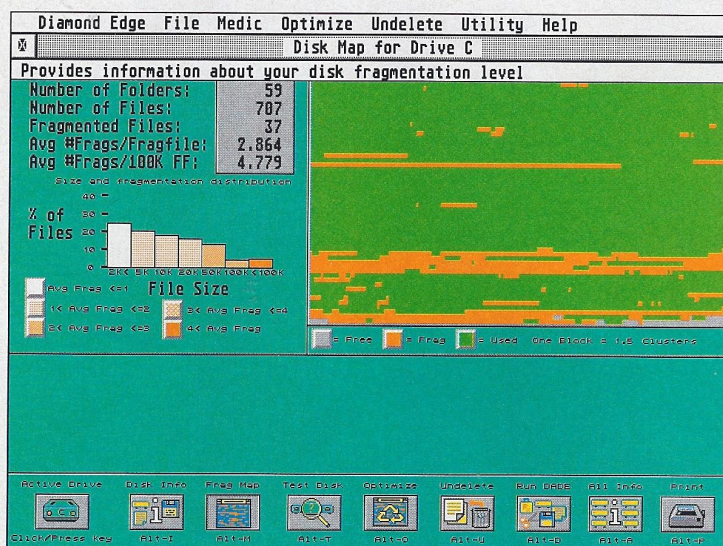
When writing data, a current is fed through the head to magnetise the area of the platter directly below it. When reading, as the magnetised areas sweep below the head, a small electric current (flux) is induced in the head. It is then retrieved by the built-in electronics and converted back to the original data.

The head is moved a fraction of a millimetre to move from track to track and a typical drive has around 500 tracks. Each track is split up into sectors each of which stores a chunk of data (typically 1-8Kb per sector). Fortunately the disk's internal controller works out where to store the data for any particular file and all the head movements and decoding of data is done transparently.

As hard drives have increased in capacity the distances between the tracks have decreased dramatically. If the heads drift with temperature they could easily go off the edge of one track and onto the adjacent one. To prevent this, some drives have to calibrate themselves occasionally, leading to temporary data flow interruption. This isn't a problem in normal use but causes drop outs on direct to disk audio or video recordings. To make sure this doesn't happen, drives are now produced which guarantee a smooth flow of data. Micropolis is the leader in this field with its AV series of drives.

The Art of Hard Disk Maintenance

Find out all you need to keep your hard disk in top shape. Ofir Gal reveals the gory details.



File fragmentation can slow down disk access. This Diamond Edge window shows fragmented files in red. Reading these files will take considerably longer than others.

are many reasons why you should take care of the data on your hard disk.

Back-up

On a floppy-based system, if one disk fails you only lose a few files. With a hard disk, if things go wrong you can end up losing months of even years worth of data. It is important to make regular back-ups of your files.

How you go about backing up your data depends on the size of files you normally deal with as well as the capacity of your hard disk. For smaller hard drives, backing up to floppies is a possibility. There are several programs to assist you available in the public domain, but Diamond Back 3 is a firm favourite with most users. Among its

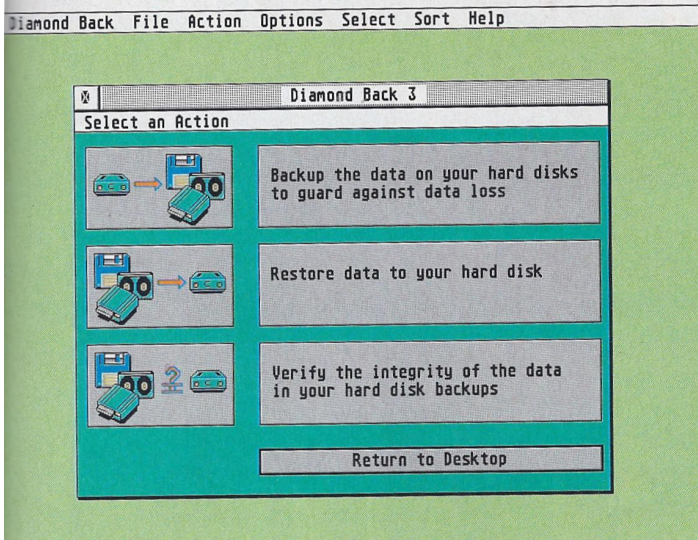
What's on the disk

A hard disk, very much like a floppy disk, is organised into sectors. This is similar to the grooves on an LP. The first few sectors contain vital information about the data on the rest of the disk.

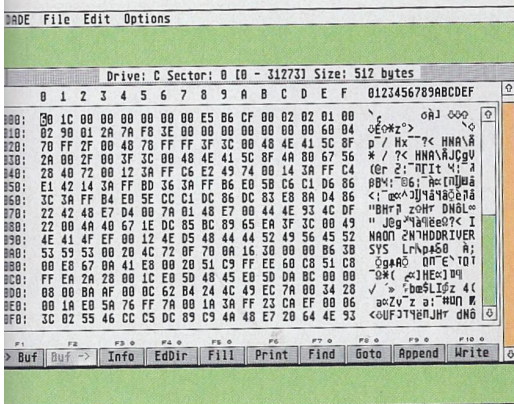
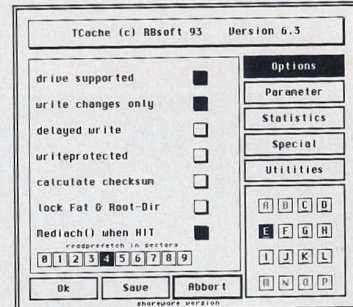
The first sector - Sector 0 - is where the total size of the hard disk is stored as well as a list of defective sectors and a list of the partitions on the disk. Each partition starts with a boot sector which contains information about the number of files in the root directory - that is outside any folders, the number of sectors in that partition and similar data.

The FAT (File Allocation Table) is where TOS stores the physical location of all the files in the partition. Whenever you try to load a file, TOS looks in the FAT table which tells it on which sectors to find the file. Finally, some sectors are used for the Directory. This contains file names, time and date they were last changed and their sizes. Basically the information you see on the desktop.

Hard disks are generally more reliable than the floppy variety. Protected by a metal case and a fan to keep it cool, a hard drive is likely to give you trouble-free performance for many years. A hard disk is very fast, but its performance may degrade as data becomes fragmented. Various TOS bugs and hardware faults may cause file corruption and you may even delete a file by mistake. If a program crashes while saving a file, data corruption may arise. In short, there



Tcache is a sophisticated shareware disk caching program with more options and buttons than you could ever need. Alternatively, just stick with the simple but effective CACHEXX.PR.G.



Diamond Back 3 is a powerful back-up system compatible with anything from a floppy disk to a tape streamer.

The latest version of Diamond Edge includes a powerful disk editor. Using such a beast requires knowledge of the operating system. It's easy to cause irreversible damage.

any features is the ability to only back up files that have changed since the last back-up - a method known as incremental back-up. Also, Diamond Back can compress the data as it writes it to floppy, effectively storing over 1Mb on a double-sided disk.

Another option is to back up to some form of removable disks such as agnet-optical or the latest ZIP drives (see pages 73 and 74). This saves you a lot of tedious floppy disk swapping, effectively allowing for unattended backup. Another alternative is to use a tape backup unit.

Defragmentation and Corruption

Whenever you save a file to your hard disk, TOS looks for some free space on the disk to save to. Eventually, a contiguous area cannot be found and the file is written in segments which are fragmented on different areas of the disk. Eventually, most of the files become fragmented which slows down disk access as the head has to keep moving back and forth to read the next segment of the file.

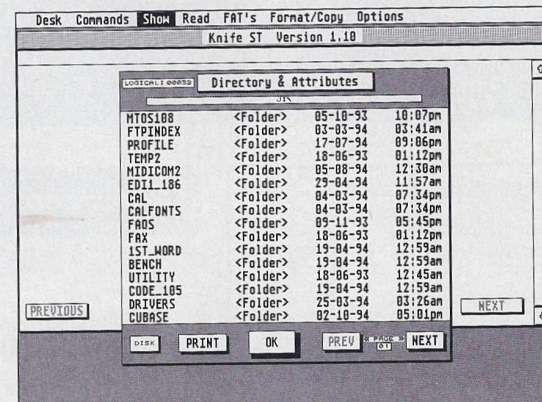
It is possible to defragment the disk manually by creating a full back-up, deleting all files and then restoring the files from the back-up disks. A lengthy

procedure. Diamond Edge is a disk maintenance program that can defragment files very quickly and reliably. It is possible for data to become damaged for a variety of reasons. Again, Diamond Edge comes to the rescue and is able to cure most cases of data corruption. Finally, Edge will allow you to recover files you have accidentally deleted.

Disk Caching

Almost every disk access requires the read/write head to travel along the surface of the disk to the directory and FAT tables before it can read or write a file. This has a drastic effect on

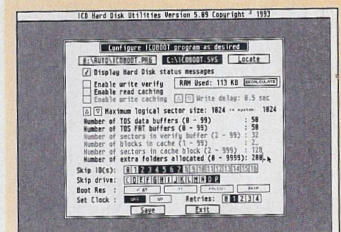
Although no longer supported and not fully compatible with the Falcon, Knife ST is still a powerful data recovery tool in the right hands.



performance. A disk cache works by keeping a copy of the tables in memory, so that they can be accessed immediately. There are many caching utilities available including CACHEXX.PR.G from Atari. Hard disk drivers like ICD Utilities and HD Driver have built-in caches that work quite well.

TOS-related hard disk problems

The most notorious problem with hard disks is the Forty-Folder bug. Whenever TOS opens a folder it becomes "active" and its directory structure details are stored in two of 80 blocks of memory called the "OS Pool". In addition, one block is used per open file and one quarter block is used per memory chunk allocated to a program or free. When files are closed or memory chunks are freed, these blocks are released back to the OS pool.



If you use ICD's hard disk driver you can set an extra number of folders in the HDUTIL program and dispense with FOLDXXX.PR.G - one less program in that AUTO folder!

In TOS 1.00 and 1.02 however, a folder becomes active when TOS "sees" it in a directory listing so that just opening a directory window causes all the folders there to take up blocks in the OS pool regardless of whether they are opened or not. Also, blocks are never freed from the pool. Eventually, the OS pool runs out and the system halts.

TOS 1.04 fixed these problems but there are still limits. The 80 block OS pool can still run out if you have many deeply buried folders or use programs that access a large number of folders.

Everyone should use the freeware Atari FOLDXXX.PR.G program which adds memory to the OS pool. Naming it FOLDR100.PR.G and placing it in the AUTO folder gives the OS pool room for 100 additional active folders which should be sufficient for everyone.

TOS 1.00 and TOS 1.02 are also very slow at handling hard disks, especially the file copying routines and those that look for free disk space for writing to. FATSPEED.PR.G is essential for speeding up these versions of TOS to match the speed of later versions of TOS.

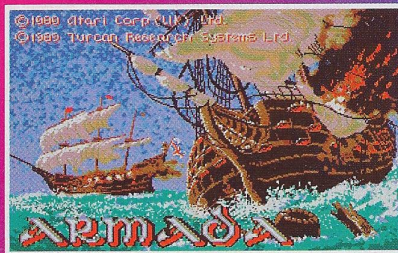
Mega Games Bundle!

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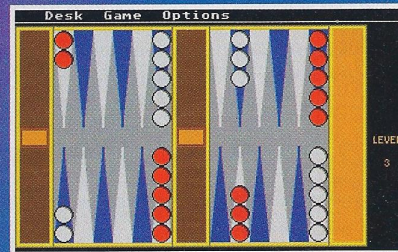
Nine classic games – the full packs including manuals, all for just £15!



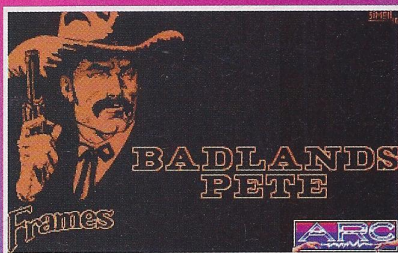
9 Lives Wacky and catchy – four massive levels with hundreds of rooms, stunning animation and dozens of characters.



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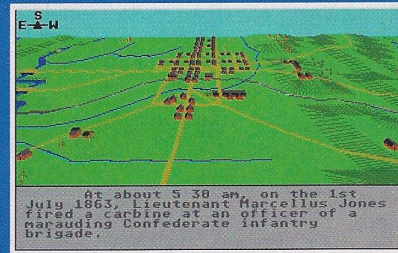
Backgammon The classic board game, Backgammon is probably the oldest of all games combining skill and chance.



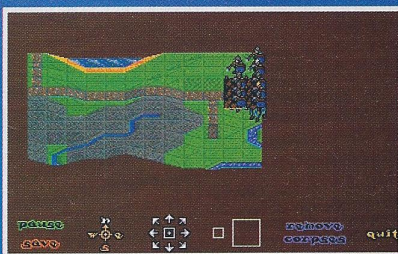
Badlands Pete Take on the role of the meanest, leanest six-gun toter in the Wild West. Smooth scrolling and 3-D sprites bring this game to life.



Chronicles of Omega A magical quest where good clashes with evil – battle your way to the demon castle for the final encounter.



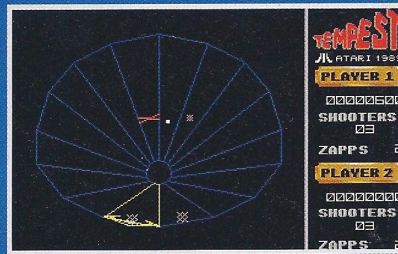
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Pyramax As an intrepid intergalactic explorer you must decode the devious booby traps to reach the incredible Crystal of Thaal.



Tempest A classic Jeff Minter shoot-'em-up and forerunner of the highly-acclaimed Jaguar version, Tempest 2000.

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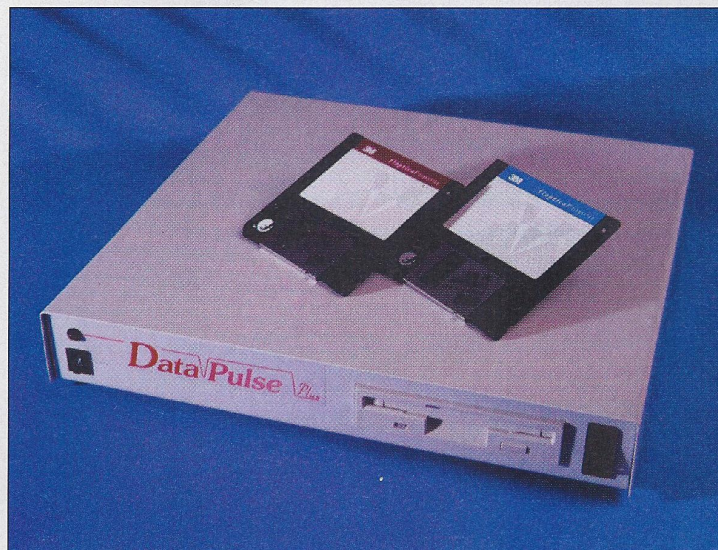
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Storage devices

The standard fixed hard disk is only one of a variety of storage systems available. Ofir Gal takes a look at the current state of the art.



Floptical drives can store 21Mb of data onto disks that are similar to normal floppy disks. The additional ability to read and write standard floppies was attractive to some but the drop in price of other alternatives could be the reason Floptical drives never really caught on.

If you don't yet have a hard disk, your best bet is to get one of these first. However, it is worth taking a look at the current storage technology before making a final decision.

Fixed hard disks

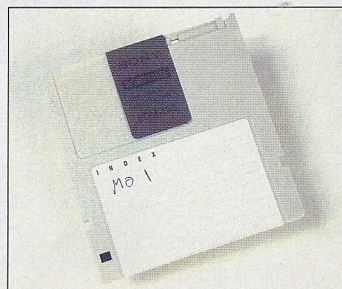
The standard hard disk mechanism consists of a fixed, sealed magnetic surface called a platter. Most hard disks contain a number of platters rotating at a high speed. The data is read and written using an electro-magnetic head that hovers above the surface of the platter. Currently the fixed hard drive technology is more expensive than the alternatives but is also the fastest.

Prices have been dropping recently while performance is constantly improving, making alternative media less attractive than it used to be. The typical hard disk these days measures 150 by 100mm and is less than 40mm high. Low capacity units are becoming hard

to find and manufacturers are concentrating their efforts on 500Mb units or higher. Prices are around 50p per megabyte.

SyQuest

SyQuest is the brand name of the company that developed the extremely popular removable hard disk. The technology is very similar to the fixed hard disk but with a few important differences. The system uses a single platter which is housed in a plastic cartridge. When the cartridge is inserted into the drive,



Magneto-optical disks are small, measuring 3.5" across, and are only slightly thicker than floppy disks. This makes them ideal for sending large files via post.



the read/write head is moved into the plastic casing and the platter is spun up to operating speed.

The platter measures 5.25 inches and fits tightly into the plastic cartridge. Originally, the disks could store 44Mb, but later, 88Mb and 200Mb models were launched. Some of the higher capacity units can read the older 44Mb cartridges. Data transfer rates are below 500Kb per second.

Recently SyQuest introduced a new, much improved range of 3.5 inch removable drives. The new ones use a similar technology but are much faster and approach hard disk performance. The improved speed has made them popular for direct-to-disk audio recording. The first model had a capacity of 105Mb and was later followed with a 270Mb disk.

Although the new range is vastly superior to the older variety, it has failed to catch on and surprisingly, the 44Mb cartridge is still the most widely used removable media.

SyQuest drives cost between £130 to over £400 depending on format and capacity. They are normally supplied with one free cartridge. Each additional cartridge costs between £40 and £70. The price per megabyte varies between 25p and £1.

CD-ROM

The CD-ROM technology is based around the Audio CD. The disk is read-only.

Although writable CD-ROM devices are becoming available, they are very expensive at over £2,000. They are currently used for distribution of software such as PD collections, fonts and more recently multimedia encyclopaedia titles. The drive requires special software in order to access the data on the

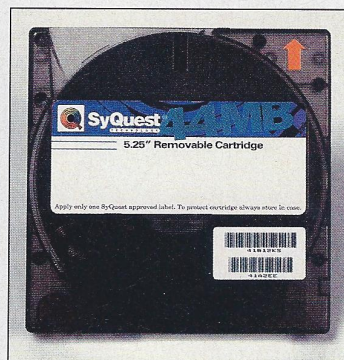
disk and is capable of playing Audio CDs too. The system uses a laser beam which is focused on to the reflective surface of the disk which contains pores. Each of these pores can either be reflective or not, representing the values 1 and 0. Capacity is over 600Mb.

Data access is fairly slow in comparison with other storage systems with transfer rates of 300Kb per second for double-speed units and 600Kb per second for quad-speed drives. The real bottleneck is the slow access time of 200-300ms. Drives cost between £150 and £250.

Magneto-optical

Otherwise known as MO drives, these units combine CD and electro-magnetic technologies. The disks are removable and measure 3.5 inches, looking much like thick floppy disks. The surface of the disk is not visible and is protected by a sturdy plastic case.

The reading process is the same as with CD-ROM using a weak laser beam which is reflected off the disk surface. Most MO drives however feature better performance than CD-ROMs with data transfer rate of 600Kb per second or better when reading. The writing



Although Magneto-optical drives are relatively expensive, the low cost of the actual media and its durability makes them useful for back-up purposes as well as daily use.

process is much slower and employs a powerful laser beam that reverses the magnetic polarity of the disk surface using heat. The process can be repeated thousands of times and MO disks are generally regarded as very reliable. Popular disk capacities are 128Mb and 230Mb and drives retail for around £600. The 230Mb model is capable of reading and writing 128Mb disks.

Each additional disk costs between £20 and £30 depending on capacity, giving an average price of around 15p per Mb. This makes MO the cheapest storage media in the long run. Higher capacity drives are available too. These use 5.25 inch disks that can store 650Mb or 1.3Gb. Drives cost more than £1500 and each disk under £80.

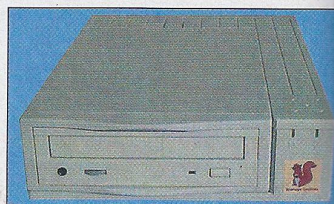
Emerging technologies

The Iomega ZIP drive is the latest storage system to hit the streets. The drive is only available as an external unit that retails for around £180. It uses 3.5 inch disks and claims a data transfer rate of 1.3Mb per second and a 30ms average access time. Each disk can store 100Mb and is expected to cost under £20.

SyQuest has responded to the ZIP drive by announcing a new SyQuest drive with similar specification. Details are not yet available.

Nomaj, a long time SyQuest competitor has announced a 540Mb removable cartridge drive, using technology similar to the SyQuest. The drive is scheduled for launch later this year and is expected to retail at £500.

CD-ROM drives aren't storage devices but complement a standard hard disk. Apart from playing Audio CDs, they give you access to PD software, clip art and font collections.



Jargon buster

Byte - the basic unit used to measure disk or memory capacity. As a reference, each letter or digit in a text file occupies one byte of storage space.

Kb - a kilobyte is 1,024 bytes. A double-density, double-sided floppy disk, as used in most STs, can store 720 kilobytes.

Mb - a megabyte equals 1,024 kilobytes or a little over one million bytes.

Gb - a gigabyte is 1,024 megabytes.

Data Transfer Rate - the amount of data that a storage device can output in a second. The data transfer rate of a floppy disk is below 20Kb per second while the fastest hard disks can exceed 2Mb per second.

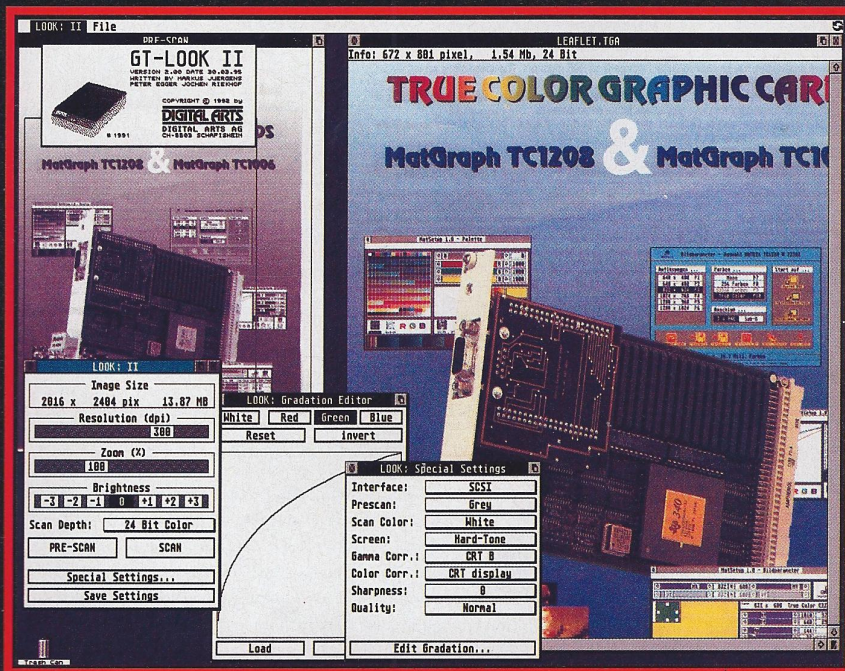
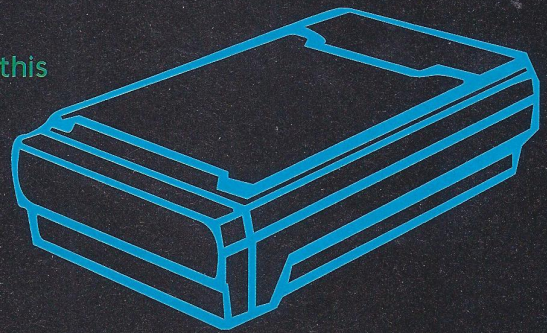
Average Access Time - the time it takes the read/write head to access a sector on the disk, measured in milliseconds. The access time plays a crucial factor in the overall performance of a storage device. Modern hard disks feature access times between 8 and 14ms.

Colour Flatbed Scanner for the Atari £699.00 Inc. VAT

EPSON GT Colour/Mono Flatbed Scanners

The GT series of flatbed scanners from Epson gives you stunning lifelike colour scans from any colour picture up to A4 in size. The scanners range from 600 dpi to over 800 dpi, each with hardware zooming to give up to 2x the scanning resolution. These scanners will plug directly into the SCSI port of the TT or Falcon. For Atari ST/STe and Mega ST/STe owners the scanner plugs directly into the parallel port with one extra lead to fit into the MIDI port.

Our package comes complete with DA's GT Look 2. With this software you can scan either directly into RAM or on to hard drive. This is the easiest to use scanning software on any computer platform, giving you access to all of the features built into the scanner, and some new ones. Just put in the image to be scanned, click on PRESCAN, select the portion of the picture you want scanned, then click on SCAN.



GT Look 2 is now modular with the first module available being a photocopy option. Use your scanner and printer simultaneously to produce photocopies.

The GT range of scanners is not just for colour work. GT Look allows you to scan in 24 bit Colour, Greyscale or Monochrome. In Monochrome, GT Look 2 gives you a wide range of dithering effects to produce shades of grey from coloured areas of the image. You can even set the scanner to adjust the colours to suit Inkjet and Dot matrix printers.

System Solutions

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include V.A.T.

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Please phone for information about the GT 8500, GT 9500 and other GT Scanner packages available for Atari, Mac and PC. Ask for information on the Photocopier Module & the Optimiser Module for GT Look 2

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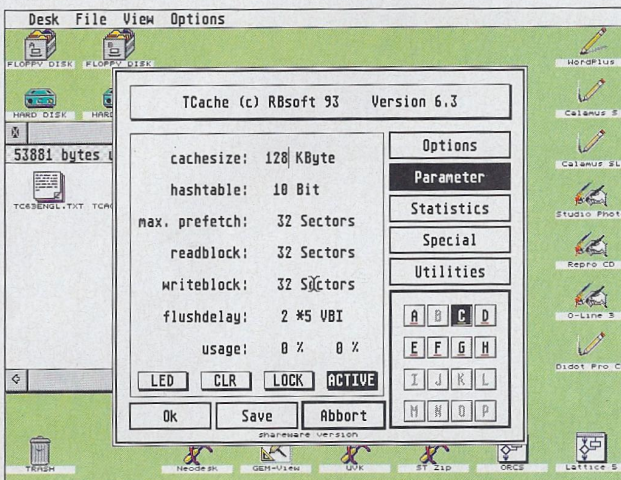
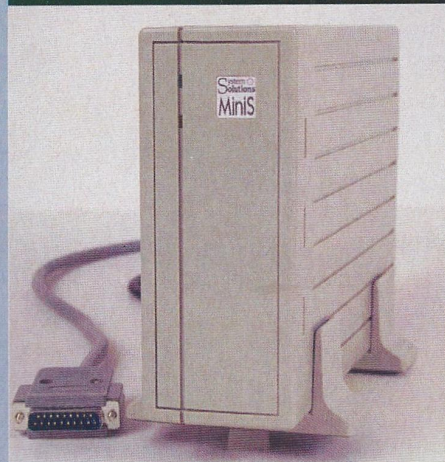
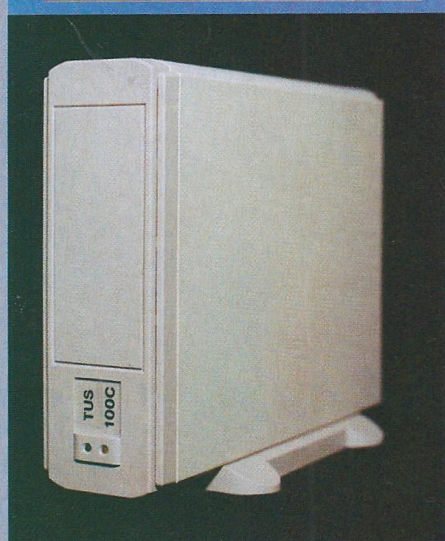
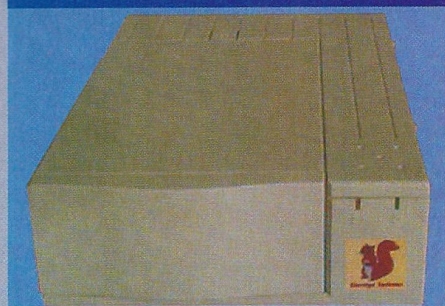
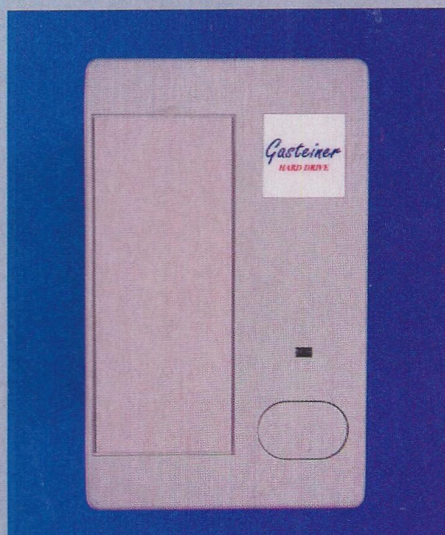
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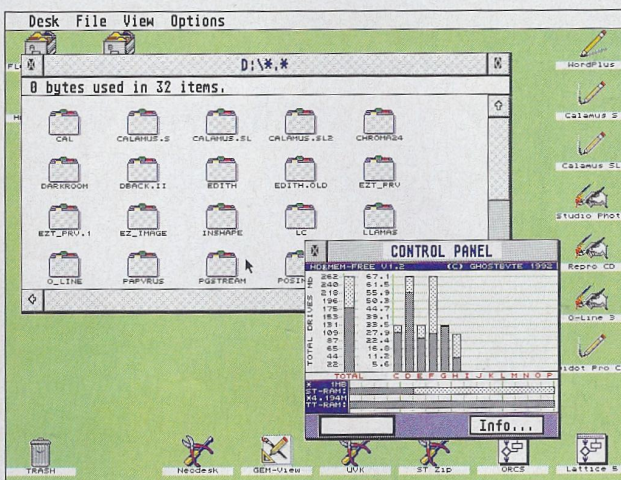
Tel: (0181) 693 3355

Hard and

In search of the perfect hard drive?
Nial Grimes guides you through the
hardware and software minefield...



AHDI lacks an internal cache but that's easily remedied by installing Cachennn or T-Cache.



Drives in the 300Mb bracket are affordable and big enough to cope with almost any application.

The Gasteiner drives boast a British-made enclosure and competitive prices.

Nuts to you too! - HiSoft can supply cases for both 3.5" and 5.25" mechanisms.

The 100c makes an ideal first hard drive, as it's available in petite sizes and the software works well on the ST.

The MiniS is the original "baby" drive. It's well built and the picture to the left should give you some idea of just how small it is.

A hard disk is one of the biggest additions you will make to your ST system so it makes sense to consider your purchase carefully. The primary concern is capacity - just how much space are you going to need? Current prices dictate that a 350Mb hard disk can cost very little more than a 250Mb one and the extra space can be extremely handy. The same applies as you begin to move further up the capacity scale, but slide too far and you'll end up spending more money than you can afford for extra space that may never be used! There is no ideal size, but 300Mb is more than enough for most users and drives of this size tend to score well in the value for money stakes.

A secondary consideration is the host adapter and driver software. These both play a vital role in the smooth running of

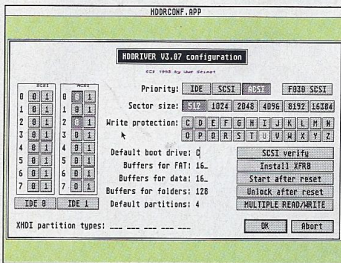
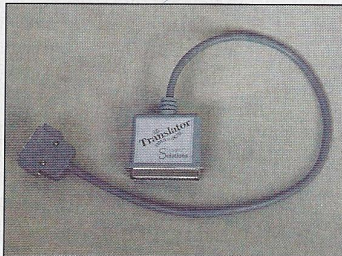
fast!

The Link is supplied with ICD's excellent hard disk utilities – naturally, caching is well covered.

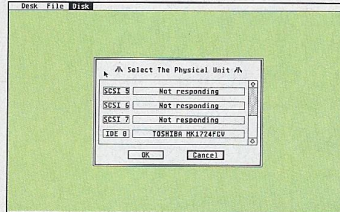
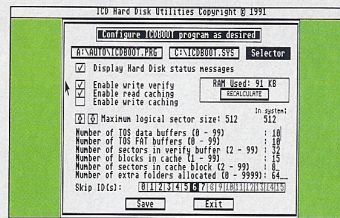
your hard disk. All of the products available function well on a basic ST system, but bring a second drive or SyQuest into the equation and the decision becomes more important. You might not have a choice in the matter but if an option is available, it's a good idea to state your exact requirements

Atari's own AHDI works well on STs and Falcons alike, as long as your drive IDs are set correctly.

System Solutions' drives are usually supplied with the Translator host adapter.



HD Driver is fast and makes good provision for the Falcon's internal hard drive.



and see what the supplier suggests. The essentials are outlined in the "Drive carefully..." box.

One final point to think about is the size of the drive enclosure itself. Although a dual-bay unit can add a little to the cost in the first place, it allows you to add a magneto-optical, SyQuest, or extra drive with the minimum of fuss and also keeps your desk neat and tidy. If you move the drive between two different machines, external SCSI ID selection is also a major plus.

It's very difficult to compare hard disks or their software support as so much depends on your system. But the above information should provide a good starting point. If you have any doubts, lay down your exact requirements and have the supplier confirm in writing that the drive will do the job.

Drive carefully...

You are likely to come across four different host adapter/driver combinations on your travels. Here's a quick rundown of each specimen...

AHDI

AHDI is reliable and compatible. It's ideal for basic ST or Falcon systems, and is available freely from bulletin boards and PD libraries. Although it lacks in-built caching, a separate Atari program is available to take up the slack. Drive IDs must be in contiguous, ascending order and support for removable media is not too good (although it will format most devices).

ICD Hard Disk Utilities

ICD are veterans in the Atari hard disk market and that is reflected in the quality of the drivers they produce. The caching and formatting software is superb and has worked faultlessly on my own ST system for several years. A Pro version is also available which doesn't demand the services of an ICD host adapter and therefore works well on the Falcon.

GE-Soft

The GE-Soft driver is quite long in the tooth but it is effective on ST systems. It's not fully compatible with the Falcon, but the basic formatting and error-checking utilities are in place. The GE-Soft package usually goes hand in hand with the Top-link host adapter.

HD Driver

HD Driver is a relatively new entry into the market, but don't let that fool you into thinking that it lacks power or sophistication. It's faster than AHDI, but maintains compatibility with Atari's offering and is reliable in use. It handles drives with removable media well and boasts good caching facilities along with a very neat interface.

Buyer's Guide

Range	Supplier	Capacities	Host Adapter	Driver	Bays	External ID Selection?
Datapulse Plus (905)	Ladbroke Computing	353Mb – £239.99, 532Mb – £319.99, 1Gb – £539.99	ICD Link 2 (Add £60)	ICD	Two	Yes
Datapulse Micra	Ladbroke Computing	353Mb – £200.00, 532Mb – £249.99, 1Gb – £509.99	ICD Link 2 (Add £60)	ICD	One	Yes
TUS 100c	The Upgrade Shop	42Mb – £139, 80Mb – £159, 234Mb – £209, 500Mb – £269	Top-link (Add £30)	GE-Soft	One	Yes
Squirrel	HiSoft	270Mb – £229, 540Mb – £299, 730Mb – £339, 1Gb – £557, 44Mb SyQuest (inc. cart) – £189, 88Mb SyQuest (inc. cart) – £329, 270Mb SyQuest (inc. cart) – £479	ICD Link 2 (Add £69.95)	ICD	One	Yes
MiniS	System Solutions	80Mb – £159, 127Mb – £199, 270Mb – £229, 365Mb – £249, 540Mb – £299, 730Mb – £349, 1Gb – £549, 1.7Gb (AV) – £899, 2Gb – £899, 2Gb (AV) – £1099, 4Gb (AV) – £1995	Translator (Add £50) or ICD Link 2 (Add £50)	HD Driver or ICD	One	Yes
MaxiS	System Solutions	Capacities as Mini-S (Add £20 to price). Also 105Mb SyQuest (inc. cart) – £369, 270Mb SyQuest (inc. cart) – £499, 230Mb Magneto-Optical (inc. cart) – £699, Zip (inc. disk) – £179	Translator (Add £50) or ICD Link 2 (Add £50)	HD Driver or ICD	Two	Yes
Prima	First Computer Centre	264Mb – £264.99, 340Mb – £279.99, 540Mb – £335.99, 1Gb – £614.99	ICD Link 2	ICD (Price varies depending on capacity)	One	No (Jumpers) (Add £20 for dual)
Power	Power Computing	52Mb – £179, 270Mb – £299, 540Mb – £399, 1Gb – £599	Top-link (Above prices include host adapter)	GE-Soft	One	Yes
Gasteiner Hard Drive	Gasteiner	120Mb – £179, 270Mb – £229, 540Mb – £289, 730Mb – £319, 1Gb – £439, 2Gb – £589, 4Gb – £789, 88Mb SyQuest – £255, 105Mb SyQuest – £248, 200Mb SyQuest – £265, 270Mb SyQuest – £359	Top-link (Add £40)	GE-Soft	One or Two (Optional)	Yes

The above prices are for a basic drive with the exception of Power Computing's range. Falcon owners will need to buy an appropriate cable while the ST demands a host adapter. Bear in mind that some suppliers charge slightly more for the drives, but less for host adapters and vice versa.

GOODMAN'S

PUBLIC DOMAIN & SHAREWARE UPDATE

No matter how much coverage the ST Magazines give to Public Domain & Shareware, they only give you a sampler of the vast range available. As one of the longest established ST libraries in the World, we are constantly adding new titles to our, already extensive collection, so why not send today for our comprehensive PD & Shareware Guide, it's now approaching 260 pages, with good descriptions, screen shots, etc.

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Q&A

Ofir Gal and his team of experts set about solving your problems...

Bad Drive



Q I own a 4Mb Falcon030 and am still

running off the original internal IDE drive. I am always careful to keep the hard drive in good condition, using Diamond Edge to defragment it at least once a month. However it has recently been playing up very badly. There are four partitions, 20Mb each, and whenever I attempt to access the last partition (F) the drive sometimes throws a fit. You can physically hear the drive crunching away as the heads try desperately to read the data but 9 times out of 10 the whole drive powers down and then waits for about 10 seconds before powering up again and trying to read the data. It has been doing this a lot and although I don't get too much corruption on the files on F partition there has been the occasional messed up picture or sample. It's getting to the stage where using the entire partition is becoming a nightmare, so I've decided to buy a new hard drive.

I notice that HiSoft is selling external SCSI drives for a very reasonable price. I am going to purchase the 730Mb drive and already have the casing and leads for it. What I need to know is this. When the SCSI drive is connected my Falcon recognises it during its normal boot procedure. However, if my internal IDE drive starts getting really corrupted and I wish to remove it, will my system still boot? Will it matter if there is no IDE drive and only a SCSI hanging off the back? If I just use the SCSI and ditch the IDE, would I have to repartition the SCSI so that one of them is a C: partition in order to boot from it?

Also can you recommend some good boot management software. I hear that ICD Pro is a good program, but how exactly will it help me? I need to know what it will do for me

before shelling out even more money. Richard Davey, Falcon Owners Group, via Internet

A Ouch! I am sorry to hear of your troubles with your Falcon's internal IDE drive. Presumably the machine is out of warranty, so returning it to the supplier for repair is out of the question?

The Falcon is quite happy to operate without an internal hard disk drive, using a hard disk attached to the SCSI port. While booting up, TOS scans first the IDE bus and then the SCSI bus looking for devices. It attempts to load the hard disk driver software from the first bootable device that it finds and then allocates drive letters to each partition in turn from then on.

If you change from running an IDE and SCSI drives to the SCSI drive only, all the device letters will change too, as the SCSI partitions "move up" the alphabet to occupy the space vacated by the IDE partitions. You will also need to place all the usual boot-up paraphernalia (AUTO folder, desk accessories and so on) on the first SCSI partition, as this will become your new C: drive.

The only disadvantage that has been reported for non-IDE Falcons is a delay during booting while TOS figures out that there is no IDE drive. There is no simple solution to this, though there is a PD hack called FastBoot that goes some way towards reducing the effect. It is not ideal, as it has to be loaded from floppy every boot.

With regard to hard disk software, for most users there is relatively little to choose between Atari's AHDI system, ICD and HD-Driver. You probably received

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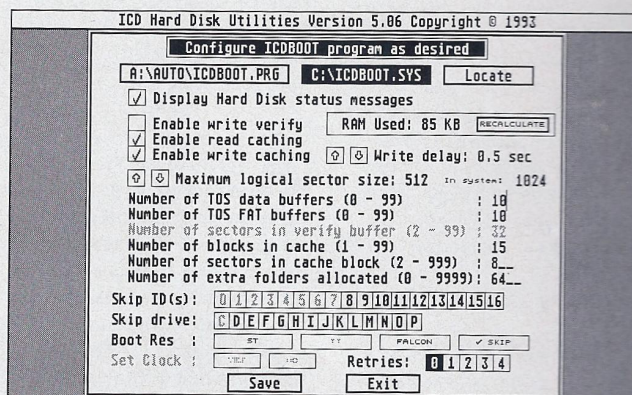
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While every effort will be made to answer your question within the pages of either Atari World or Atari Pro, please note that individual correspondence cannot be entered into.



ICD Pro comes with an excellent set of utilities and has extensive caching options.

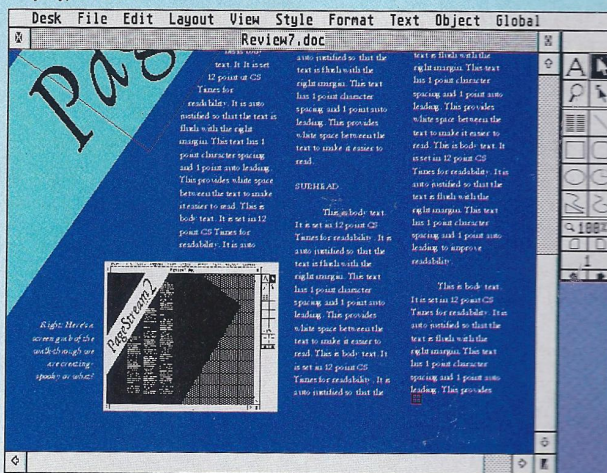
AHDI installed on your Falcon's IDE drive, so it has the advantage of not costing you any more. ICD comes with an excellent set of utilities and has extensive caching options. HD-Driver is developed in Germany and works

well in concert with some of the excellent German system software like Outside. It also has a reputation for being quick, though I don't know whether you would notice any difference in practice. Jon Ellis

Fast Pagestream

TIP For any user of Pagestream who has noticed the long delay on starting the program, you can shorten this time by using GDFLAG.PRG (freeware, and on this month's Reader Disk) and setting the fastload bit on the Import, Export and Printer drivers. I recommend GDFLAG as it allows files with any extension, not just the normal PRG, TOS, APP and the like to be altered. It has cut my boot-up time from 15 seconds to less than 6 seconds now.

Darryl Pyper via CIX



Use GDFLAG.PRG to reduce the loading delay of Pagestream.

Just MagiC



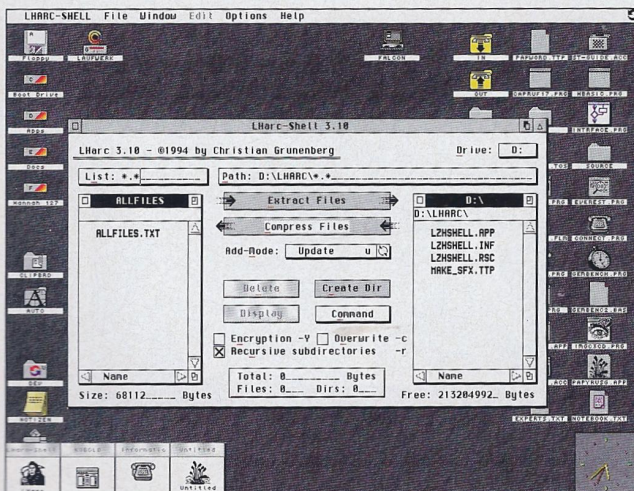
Q What is the situation with MagiCMac, as there seem to be no adverts as yet! Having read some Mac magazines it seems to provide a sort of super-charged ST in many ways. Clarisworks looks like a good piece of software but I would still like to keep That's Write (in use at the moment) STalker and Timeworks available to me. Like many ST owners, I seem to have hundreds of PD and cover disks around. So a couple of questions regarding MagiCMac. Is it possible to use art packages like Degas and Deluxe Paint? Also will any games software run (possibly using the Backward utility)?

Finally I read somewhere that pricing was going to be around the 200DM which seems a little high. I realise that you are getting quite a lot of software but at this price it's almost worth keeping your ST if you have enough space on the dreaded desktop.

Alan Edwards via Internet

A As you probably know, MagiCMac is now available from System Solutions and was reviewed in issue 2 of Atari World. Most "clean" GEM applications work quite well under MagiCMac, but some programs may have problems. I have not tried all the programs you mention, but That's Write and Timeworks should work, although Stalker may not as it hacks around the ST hardware a little – and none of this hardware exists on the Mac! Old programs like

MagiCMac runs much faster than an ST and provides extended colour resolutions. There is also an ST High compatible mode that goes some way to making older programs work.



Degas Elite are not likely to work as they expect standard ST resolutions. Games are a definite no-no. MagiC Mac retails at £150 and includes the Ease desktop. It is much faster than any Atari machine and so well worth considering. *Ofir Gal*

Interface and Prospero C

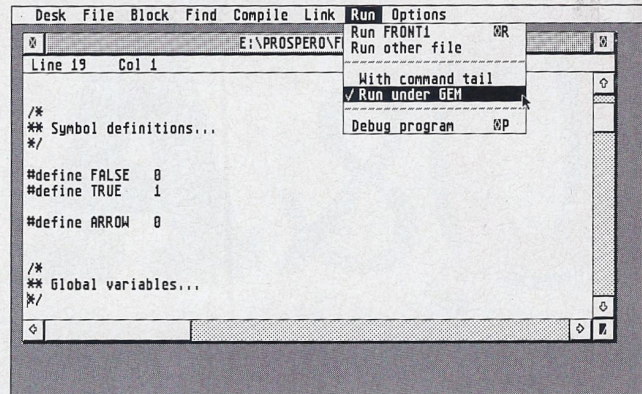


Q I liked Atari World issue 2, especially as I'm about to delve into C programming. I have the Prospero C cover disk from Atari ST Review and all of Jon Ellis's articles ready and waiting, but I'm wondering how well Prospero C sits with Interface 2.

Brian Stanton via CIX

A The simple answer is that Interface and Prospero C should get on just fine as far as the production of simple resource files goes. A resource file has a standard format, so there's no easy way for a program to know or care which resource editor has generated the file. Where you might find difficulty though is using the extra bits that come as part of the Interface package – MyDials, NKCC, long resource files and so on. This is because they are designed to go with the Pure C compiler package which uses an object file format that is not compatible with Prospero C.

You've made a good choice of language in picking C. Since so much of the ST's operating system was written in C, it provides a very natural interface to the computer. The language might seem rather alien at first, but stick with it. The ST Review articles are fine as far as they go, but there was a lot left to cover when the



series was terminated by the sale of the magazine. You really need a good book on C too – my favourite is Kernighan and Ritchie's *The C Programming Language* 2nd edition. It is rather dry and concise, but if you can cope with an academic style it will tell you everything you need to know about C although it does not mention the ST. For Atari specific information, try *The Atari Compendium* from HiSoft. *Jon Ellis*

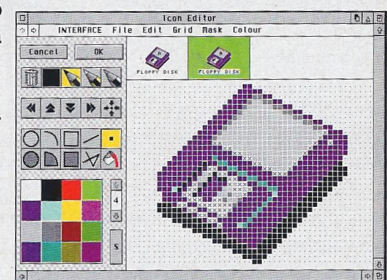
MultiTOS Icons



Q I am using MultiTOS on my 2.5Mb ST and I can't work out how to use the icon files provided with programs such as GEMView. The basic icons are OK, but the addition of the extra ones would be great. Can you help? Also, accessories don't run when double-clicked on, but will if I select "Open" from the file menu.

Richard Lawson via Internet

A Atari has managed to mess things up again on this one, Richard. The MultiTOS icons are stored in a file called DESKICON.RSC, normally found on drive C. However, Atari never provided a utility to create or edit the icons. The only utility available in the UK to do the job is Interface from Compo which was reviewed in issue 2. Being a programming utility, it is a bit of an overkill for



Interface is the only program currently available that can import and export colour MultiTOS icons.

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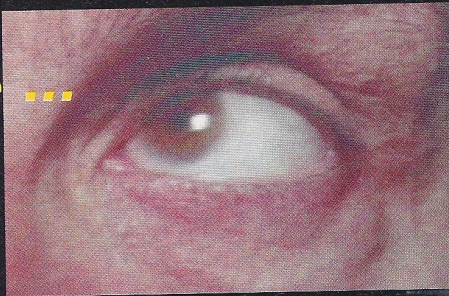
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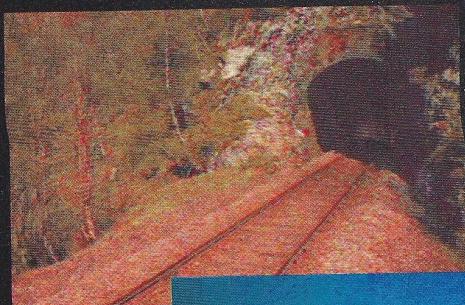


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MIDI

Life Crisis

Ian Waugh swaps sides in the great MIDI file debate...

In our first issue we saw how the not-so-humble MIDI file is being threatened by the imposition of new royalty percentages imposed by the MCPS (Mechanical Copyright Protection Society) and because many artists are refusing permission to have their songs put into MIDI file format. Most of the comments came from MIDI file production companies so we thought we'd get some comments from the music publishers and the artists.

The MCPS is controlled by music publishers and exists to collect royalties on the reproduction of music in mechanical formats. This traditionally involves CDs and cassettes but now also includes MIDI files.

Basically, MIDI files are seen as being a new medium, in much the way that CDs were perceived when they were launched (remember how fractious Dire Straits

were about CD royalties?). As such, MIDI files confer certain features and abilities, namely:

- **Lyric content:** the ability to embed lyrics into a MIDI file.
- **Graphic use:** the ability to display lyrics on a screen using karaoke programs and the like.
- **Arrangements rights:** the ability to create your own arrangement of a file.
- **Adaptation rights:** the ability to add to, remove, alter or otherwise change any part of a file.
- **Synchronisation rights:** the ability to use the file with lyrics on a moving display.

In return for these rights, the MCPS, in conjunction with the various parties that own and manage copyright, arrived at a new set of royalty figures. These are around 22 to 23 per cent of the retail price.

New year, new game

These royalty rates came into effect in January this year along with the right of the copyright owner – usually the composer or his or her management – to refuse to allow their work to be put into MIDI file format. More about this later.

Prior to January, MIDI file companies had been paying a royalty to the MCPS of about 8.5 per cent. However, this was not a licence for MIDI files and the rights inherent in them, but a mechanical licence such as the one you'd need to create backing tracks on tape. The situation led to the MCPS being asked to produce a full licence for MIDI files.



According to the MCPS's Mark Isherwood, MIDI file suppliers were informed as long ago as two years that the licences they were being granted were limited and they were advised to contact the individual publishers to obtain full rights.

Many MIDI file companies claim not to have received such information although the MCPS says it has copies of the letters it sent on file. However, letters were apparently only sent to companies that produce and sell individual files, not those that put several files on a disk in a bundle format.

Going alone

EMI, which has around 30 per cent of the music publishing market, opted out of that royalty scheme and began to license its own material independently. EMI's percentage is 22.5 per cent for most of its catalogue but 26.5 per cent for Beatles material.

According to EMI's Steve Hills, as EMI does a lot of licensing anyway, MIDI files fall naturally into the company's operation. The MCPS would dearly love to have EMI on board again but, according to Hills, this is very unlikely.

Isherwood admits that getting the approval of the copyright holders is proving something of an ordeal. But why should composers refuse to allow their work to be put into MIDI file format, especially as they are making a fair wadge from sales?

From conversations with music publishers, the main reason seems to be artistic integrity. Simply, composers do not like the end product and they don't like the idea that Joe Bloggs – that's you – can take a carefully crafted song and turn it into utter garbage. According to Warner Chapel, it's an attempt to get some sort of quality control into the process.

An interesting aspect of

the new MIDI file agreement is that if a composer allows his material to be rendered into a MIDI file, he tacitly gives permission for it to be mangled (the adaptation right). So you could probably do a world tour with an incredibly naff adaptation of a song but you may not be able to record it if the composer thought it derogatory.

"Take away the lyrics and the music and what you've got is an empty MIDI file"

Haste ye back

The final area of dispute between music publishers and MIDI file producers concerns the collection of the new royalties.

Although the MCPS's remit is only to collect royalties from January 1995, EMI wants back royalties from January 1994.

EMI says that MIDI file producers were informed that changes were underway in September/October of 1994 (compared with the MCPS's 1992) but many MIDI file suppliers claim they were not made fully aware of what the new scheme entailed. Undoubtedly they honestly believed that they were behaving in a legitimate and honest manner.

If companies were sufficiently informed in 1992 then backdating royalties to 1994 seems almost generous. But why should EMI and the MCPS differ here? Hills referred me to the MCPS although the MCPS could only comment on its own brief, not EMI's.

Said Hills: "We're not here to put people out of business. The door is always open for discussion. We're here to protect the composers we represent and to work with the industry for everyone's benefit."

It's not an attitude the MIDI file suppliers seem to appreciate. One very large company is reported to have referred the matter immediately to its legal department. Another smaller company has involved the MIA (Music Industries Association) and the issues have yet to be resolved.

To be forewarned

To further aggravate the situation, the MCPS was approached back in 1989 by at least one MIDI file company

that explained the new format and asked for a licence for it. The MCPS and music publishers have been aware of the new medium for over six years so why weren't new licences drawn up then? And even if the situation was resolved just last year, why is the MCPS only now starting to seek conversion permission from copyright holders?

The MCPS's main brief seems to be to clear the backlog of material. The inevitable delay has meant that virtual no chart material has been licensed this year and many MIDI file companies have had their catalogues so reduced that their business is barely ticking over.

At the end of the day, copyright holders have a right to say how their material will be copied and to charge whatever they wish for that right. As both Warner Chapel and EMI said: "Take away the lyrics and the music and what you've got is an empty MIDI file." And that's the bottom line.

However, the current situation has arisen because of a decided lack of good communication, so who's to blame? More than one music publisher blames the MCPS itself (and let's remember who runs the MCPS) saying that the original licences should never have been issued.

Stuck in the MIDI

As of writing, no MIDI file company has actually received a full licence from the MCPS or EMI although they continue to pay royalties. At least one has coughed up the full rate of back royalties even though, because of objections from copyright holders, some of the files will not now be able to be sold. No doubt some legal expert can correct me, but by accepting royalties, it would appear that EMI *has* granted a licence retrospectively for that year!

It's a shame the industry didn't work out the rules a little earlier, say six years ago when it was presented with the necessary information. It would have prevented a whole mess of confusion and resentment, allowed the creation and sale of MIDI files to continue unabated, and saved several MIDI file producers lots of grief, money and sleepless nights.

As one music publisher confided: "It's been an absolute nightmare for us. I leave it to you to dole out your sympathies to the most deserving party..."



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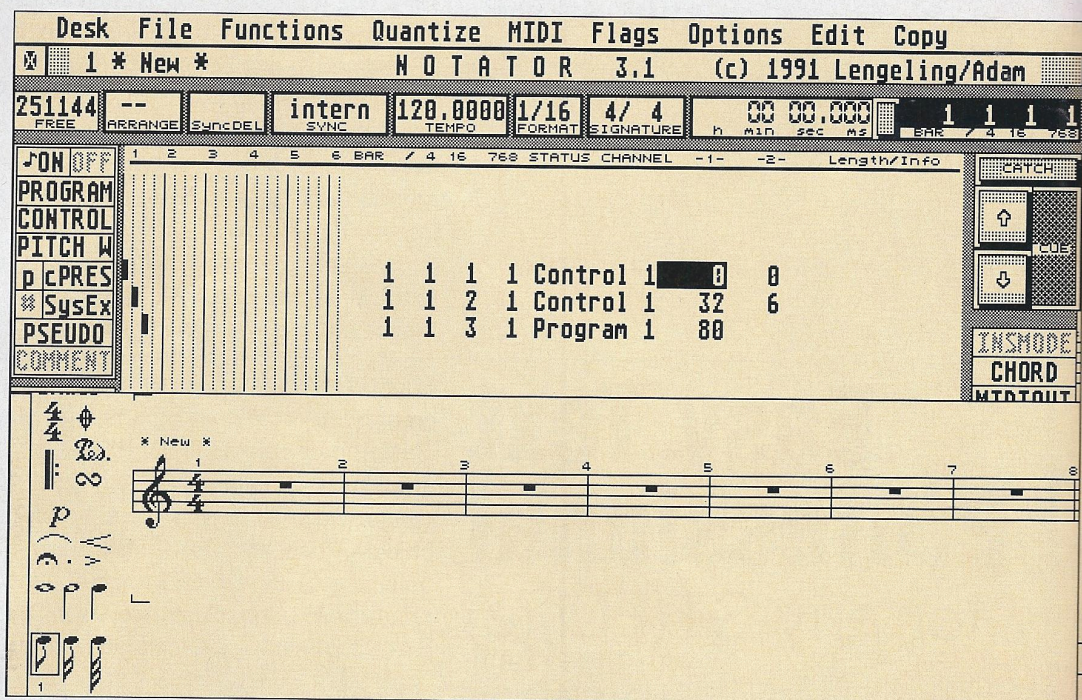
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Sequencing

– beyond the manual



If your sequencer doesn't support Bank Select messages directly you can insert them in the Event List. Here Notator is set to select Program Change 80 in Bank 6.



If computers could count up to 10,000, selecting new sounds would be easy. But they don't and it isn't. Iain Waugh explains...

Ignoring the Byte

If you look at a list of Controller messages you'll see that messages 32-63 are listed as being the LSB for Controllers 0 to 31. Conventionally, Controllers 0 to 31 are often sent without their LSB and some devices may actually ignore the LSB. However, as we have seen, in the case of Bank Select it's the LSB which actually selects the bank.

So, a word of caution. If a device ignores the LSB it won't change banks. If you're having problems with Bank Select it may pay you to look at the instrument's documentation to see how it reacts to these messages. A word with the manufacturer's technical support people should quickly reveal how the instrument behaves.

Well, of course computers can count up to 10,000 but they don't count in the same way we do. Neither do musical instruments. You probably know that MIDI is very fond of numbers such as 127 and 255. Without getting too techie, it's because the processors in MIDI instruments use a different system of counting to us humans.

It's the same system used by computers and whereas 10 and 100 are "base" numbers for us, computers prefer numbers such as 16, 127 and 1,024. Because of this and for historical

reasons MIDI only has provision for selecting 128 sounds using the Program Change command.

But, many modern instruments have more than 128 sounds so how do you access them all?

In the bank

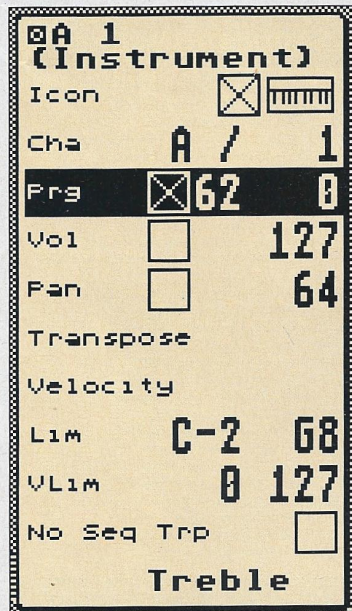
The answer lies in banks. All instruments with more than 128 sounds arrange them in banks. In fact, an instrument need not have 128 sounds for it to use banks. An instrument with 64 sounds could arrange them in four banks labelled A to D, each containing 16 sounds.

In such a case you'd have to calculate which Program Change numbers were required to select the sounds. In this example, number 51 would select the 3rd sound in bank C (16+16+16+3).

But what if there are more than 128 sounds? In 1990 the Bank Select message was added to the MIDI specification and most instruments produced since then have included it. It uses MIDI Controllers 0 and 32 which are capable of selecting 16,384 banks. Sounds within a bank are then selected using Program Change numbers in the usual way so these messages can potentially be used to select 2,097,152 sounds! That should keep us going for another year at least.

Some sequencers have direct support for Bank Change messages on their track page. Obviously, this is by far the best method to use as everything is set out for you. If your sequencer does not support Bank Change messages in this way you can enter Bank Change data in the Event list.

If you're not familiar with the computer way of numbering then just follow



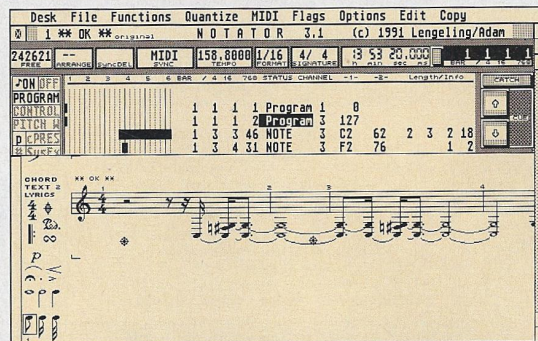
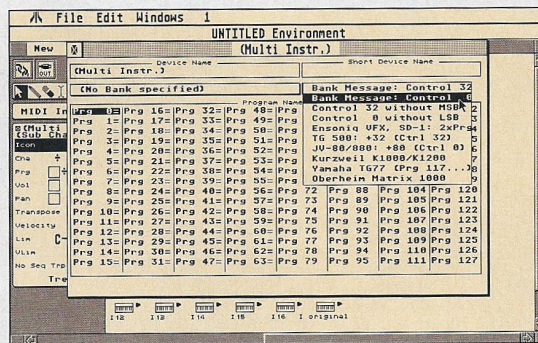
With Logic, you can select the Bank and Program Change number in the Instrument Parameter box.

The 127/128 controversy

MIDI supports 128 Program Change messages but unlike humans who begin counting at 1, computers start at 0 so when a computer has counted to 127 it has actually counted off 128 items.

This is rather unnatural to us so in an effort to make musical instruments and sequencers more user-friendly, many systems use the human counting system of 1 to 128 while others preserve the MIDI-correct system of 0 to 127.

This can be rather confusing, especially if you're using a sequencer and an instrument which use different counting systems. So if a Program Change does not select the sound it should, check the numbering systems.



the logic of the process. You don't have to know exactly what it all means in order to use it.

Controllers 0 and 32 must each be followed by a value. The value following Controller 0 is the MSB (Most Significant Byte) and that following 32 is the LSB (Least Significant Byte). Don't worry if you don't understand this, just follow it. Now a Bank Select message takes the following format:

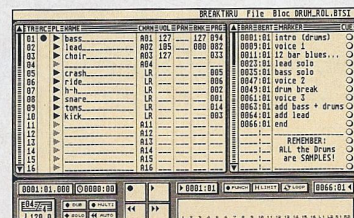
- Controller 0 MSB
- Controller 32 LSB
- Program Change Number

The LSB following Controller 32 is used to select Banks 0 to 127 (or 1 to 128, depending on your predilection). So, to select Program 80 in Bank 6, in the Event List you would enter:

- Controller 0 0
- Controller 32 6
- Program Change 80

The Roland alternative

If you are using a Roland GS instrument, however, this won't work. The GS Bank Select procedure reverses the MSB and LSB which effectively means – until instruments have more than 128 banks – that you use Controller 0 to select the Bank number, rather than Controller 32. So the following will select the same Program



Top: To configure Logic's Bank Select for use with GS instruments, select "Bank Message: Control 0" in the parameter section of a Multi Instrument.

Bottom: Notator uses the "correct" method of Program Change numbering from 0 to 127.

on a GS instrument as the previous example:

- Controller 0 6
- Controller 32 0
- Program Change 80

Aren't MIDI standards wonderful?

EMagic Logic

EMagic's Logic has a Bank Select option in the Instrument Parameter Box but it defaults to the traditional Bank Select method of using Controller 32 to select the Bank. If you are using Logic with a GS instrument you can change it to use Controller 0. Here's how.

Go to the Environment page, create a Multi Instrument and double click on it to get its parameter page. Near the top right corner is a pull-down menu which probably says "Bank Message: Control 32". Click on it and hold and select the next option which is "Bank Message: Control 0". That should do the trick.

For various reasons, not all instruments number their banks sequentially and you may come across one which has a bank number in excess of 62. Why 62? Because that is the highest bank number you can select in Logic's Instrument Parameter box.

To select a higher bank, go to the Environment page, create a Transformer (Figure 1) and double click on it to see its parameters. In the Conditions line set the Status to Control and the 1st parameter to 32. In the Operations line set the last parameter to Add and the value to the number by which you want to increment the bank (Figure 2). For example, to select Bank 127 you'd use the value 65 (62 + 65 = 127). Finally, plug the Transformer into the system between the instrument and the output port (Figure 3).

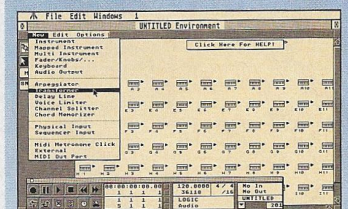


Figure 1: To access bank numbers in excess of 62 in Logic, first create a Transformer in the Environment page.

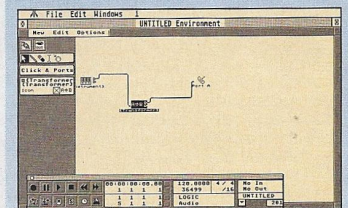


Figure 2: Next, set the Transformer's parameters to increment the Controller 32 value.

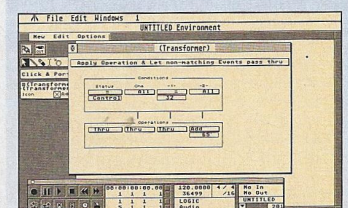


Figure 3: Finally, plug it into the system between the instrument and the output port.

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There's little doubt that some of the best ever Atari programs have appeared as either public domain, shareware or freeware. Public Arena brings you reviews of the best programs and games, month in, month out – and our 10 point marking system guides you effortlessly through the decision of whether to buy. Reviews by Nial Grimes, Joe Connor, Denesh Bhabuta and Carl Lofgren.

IdeaList v3.6

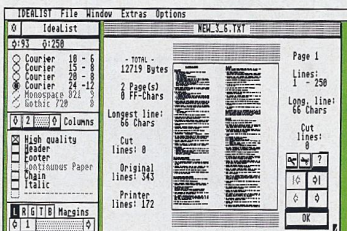
Goodman International • £1.95 • ST/STe/Falcon



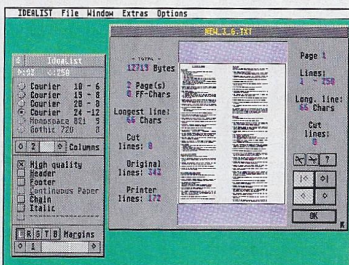
IdeaList describes itself as "a versatile tool that takes the hard work out of printing ASCII, First Word Plus and RTF format files". This masterpiece of understatement completely fails to convey the awesome control IdeaList exerts over a printer.

On-disk documentation and e-mail messages are ideal candidates for the IdeaList treatment and although the range of options can be a bit overwhelming at first a typical session involves nothing more complicated than selecting a font, point size and number of columns then selecting the Print button. If your printer can't keep up, the spooler takes over and will spool up to 36 files.

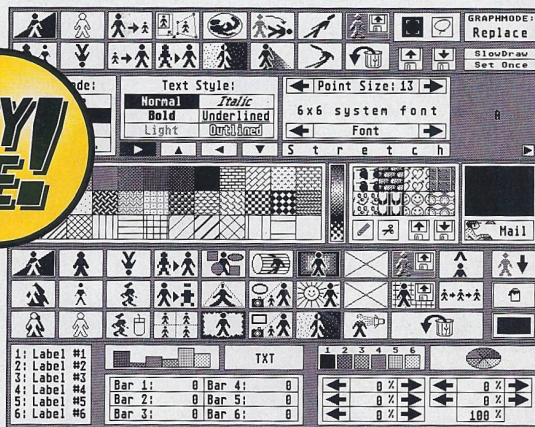
IdeaList runs either as a program or desk accessory and it can optionally take advantage of your existing GDOS, SpeedoGDOS or NVDI 3 installation. Used together with one of IdeaList's IXA printer configuration files, this generates superb printed output at any available point size and font. IdeaList is shareware and costs £13 for the latest version which includes plenty of new features, including an enhanced page preview mode, optimised printer margin handling and control over font and line spacing from 50 to 200% of normal values.



... and in glorious colour on a Falcon.



Munch v1.5



Here are just some of the Munch sub-menus.

Floppyshop • £2.00 • ST/STe/Falcon (ST high only)



Munch, programmed by Vegard Hofsy in Norway, is a shareware monochrome art package packed with features aimed at DTP users.

It provides a staggering array of tools and tasty extras, including on-line help prompts, graduated and custom fills, multiple Bézier curves, automatic bar and pie chart generation, bucketloads of special effects and a fun menu that really is fun!

Up to ten screen-sized image buffers are available including one buffer capable of handling larger than screen-sized images up to 2,500 x 3,500 pixels. A key productivity area is the zoom studio which enables most tools to be used in zoom mode at up to 16 times magnification.

Munch supports GDOS, SpeedoGDOS and NVDI 3, offering bitmap and vector font support between 4 and 72 points. A good range of image formats is supported too and the demo version saves Degas or Neochrome images with PAC, IMG and TIFF support available in the registered version. Only rudimentary printer support is built-in but since images are usually imported into other applications for final output this isn't a serious limitation.

The full version costs £23 pounds and includes a printed manual and three bonus programs: Bitmap Voyeur, a slideshow utility, a sprite editor and an effects construction set.

BUY ME!

Select the options then preview the output, here on an ST...

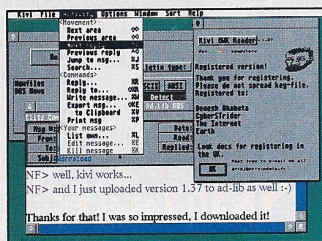
KIVI 1.37

Floppyshop • £2.00 • ST/STe/Falcon



If you frequent BBSs, you'll know the side effects of getting carried away with the hobby: huge phone bills from reading and replying to hundreds of messages.

Kivi is a shareware off-line reader (OLR) that can help reduce your telephone bill. The BBS system can save all your messages as a compressed file which you download. With the help of other PD programs, Kivi can inflate the file and enabling you to read and reply to the messages at your leisure. Responses can be uploaded to the BBS when you next go on-line.



Kivi (here on a Falcon) supports threading within conferences, and you can plan out your messages before posting.

is the only OLR that works in multitasking systems.

If you are serious about BBS comms then Kivi is definitely worth a look. Spend a few pounds to register and save many more on your next phone bill...

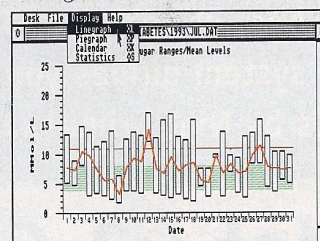


STDB v1.2



Goodman International • £1.95
• ST/STe/Falcon (medium res only)

STDB is a shareware diabetes database that provides a convenient way for diabetics to monitor their blood glucose concentrations and insulin dosages.



Monthly statistics at a glance in various formats.

The bar chart is particularly useful displaying the maximum and minimum daily concentration along with the average daily dosage as a continuous red line. A green area indicates the ideal blood glucose range with concentrations outside this range running the risk of Hypoglycaemia.

There's a powerful analysis function waiting in the wings but for legal reasons this can't be released at the moment. Registration only costs £5 so if you know a diabetic who is an Atari user do them a favour and give them a demo!

The database is used like a diary, each day the details are entered and these are usually build into monthly records which can be printed out and taken along to your diabetes clinic.

STDB can display monthly overviews as pie or bar charts and these make it easier to spot trends that might not otherwise show up on a day to day basis.



Words and images



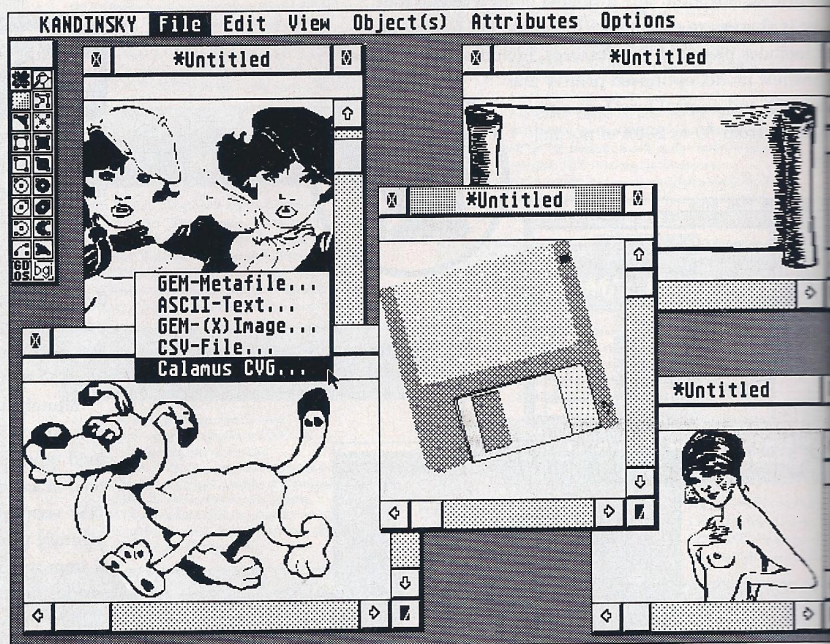
Goodman International • £1.95
• ST/STe/TT/Falcon

This sampler disk from the "Words and Images" collection contains 31 vector graphic images in Calamus CVG format. Each disk costs £2.50.

The images were all converted from large bitmap IMG format files to vector format using Gribnif's Convector program. With a few exceptions the files on the sample disk are simple black and white images without fill patterns and the complete collection currently occupies three disks and covers a diverse range of topics.

The first disk features 1920s erotica and stylised women. Disk two features 1960s images, computers, menu pics and graphic tools and disk three features animals, music, women, borders and miscellaneous objects. The sampler includes images from most of the topic areas.

The CVGs all loaded into Calamus without problems but to use them in an application which doesn't offer CVG format you'll need to convert them first. You could try XChange, reviewed elsewhere in this issue, or an application such as Kandinsky, which imports CVG files and saves them in GEM format for use in other art and DTP programs.



Painless Calamus CVG to GEM metafile format conversion using Kandinsky.



The Recipe Box v4.5



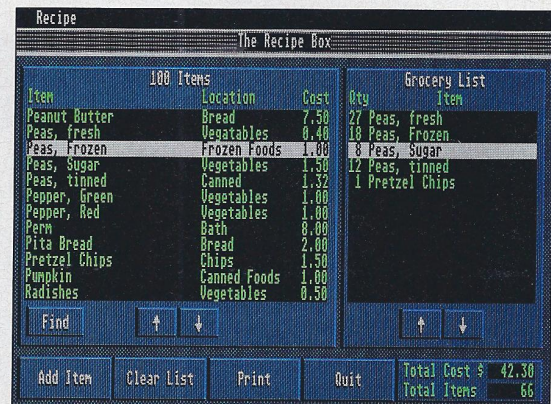
Goodman International • £1.95
• ST/STe/Falcon

The Recipe Box, programmed by Mountain Software, is an electronic cook book with knobs on. The knobs are a calorie chart, grocery list and meal planner and the calorie chart, for example, includes 279 common items which can be edited and extended to suit your needs.

Similarly the grocery list includes 98 items which can be edited and extended to reflect your local supermarket prices. A running total is maintained as items are selected and the list is alphabetically sorted, although sorting by department or aisle number would be more useful.

The meal planner caters for the next 57 meals. Any number of recipes can be placed on a single day which determines

Norma Major's shopping list, allegedly!

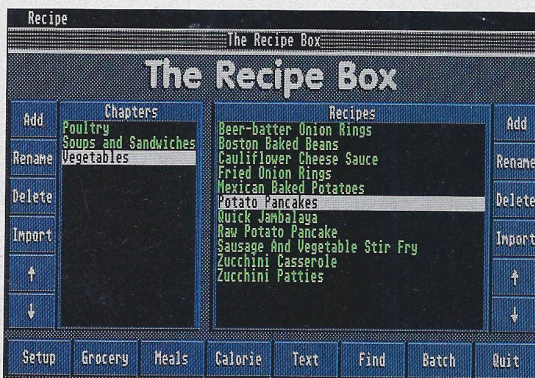


The Recipe Box even looks tasty in medium resolution.

the actual number of days ahead meals can be planned.

Some 31 recipes are included and others can be automatically imported in Meal Master and Computer Chef formats, imported manually or entered directly into the editor. Recipes can be "resized" for more servings by multiplying the quantities by any scale factor. GDOS printer support is included and should be happy with any existing GDOS or SpeedoGDOS installation.

The Recipe Box would be great if you could choose a meal and it would automatically generate the calorie chart and grocery list but you can't because it's a flat one dimensional database, which seems a missed opportunity.



CD-Player v1.3



Goodman International • £1.95
• ST/STe/Falcon

A number of audio CD-ROM players have appeared recently which is just as well because getting one to actually work isn't a trivial matter! Some players need MiNT or the commercial ExtenDOS and others work with some drives and not others. Apart from looking great, CD-Player supports all audio capable CD players and uses the Atari MetaDOS driver which is freely available.

CD-Player runs as a program or accessory and is happy under MultiTOS, Geneva and MagiC. All the usual tricks such as scan, shuffle and program play are provided along with a time calculator and database feature.

The calculator works out how many tracks you can squeeze onto C60, C90 or C120 cassettes and splits the tracks sensibly between sides. Using the calculator and program functions together makes recording CDs a cinch. The database includes fields for the CD title, artist and track titles and after the database is saved CD-Player recognises individual CDs making it easy to set up play lists for your favourite albums or listen to individual tracks by selecting them by name or track number from the CD disk



CD-Player (here on a Falcon) – a free CD player! All you need is a CD-ROM drive to use it with...

Not many other sequencers run in medium resolution.



Sweet Sixteen Lite v2.36

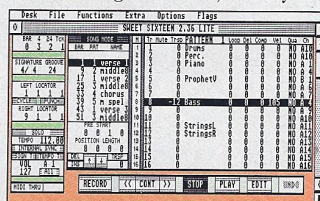


Floppyshop • £2.00
• ST/STe/Falcon

The PD version of Sweet Sixteen, written by Swedish musician Rolf Nilsson, is a pattern based MIDI sequencer bearing some visual similarities to the heavyweights Patternator and Notator. The Lite version is restricted in terms of editing, but is fully featured in all other respects. Up to 16 patterns can be linked into songs. Each pattern has 16 tracks, with its own velocity, transpose, compression, loop, delay, MIDI channel and quantize values.

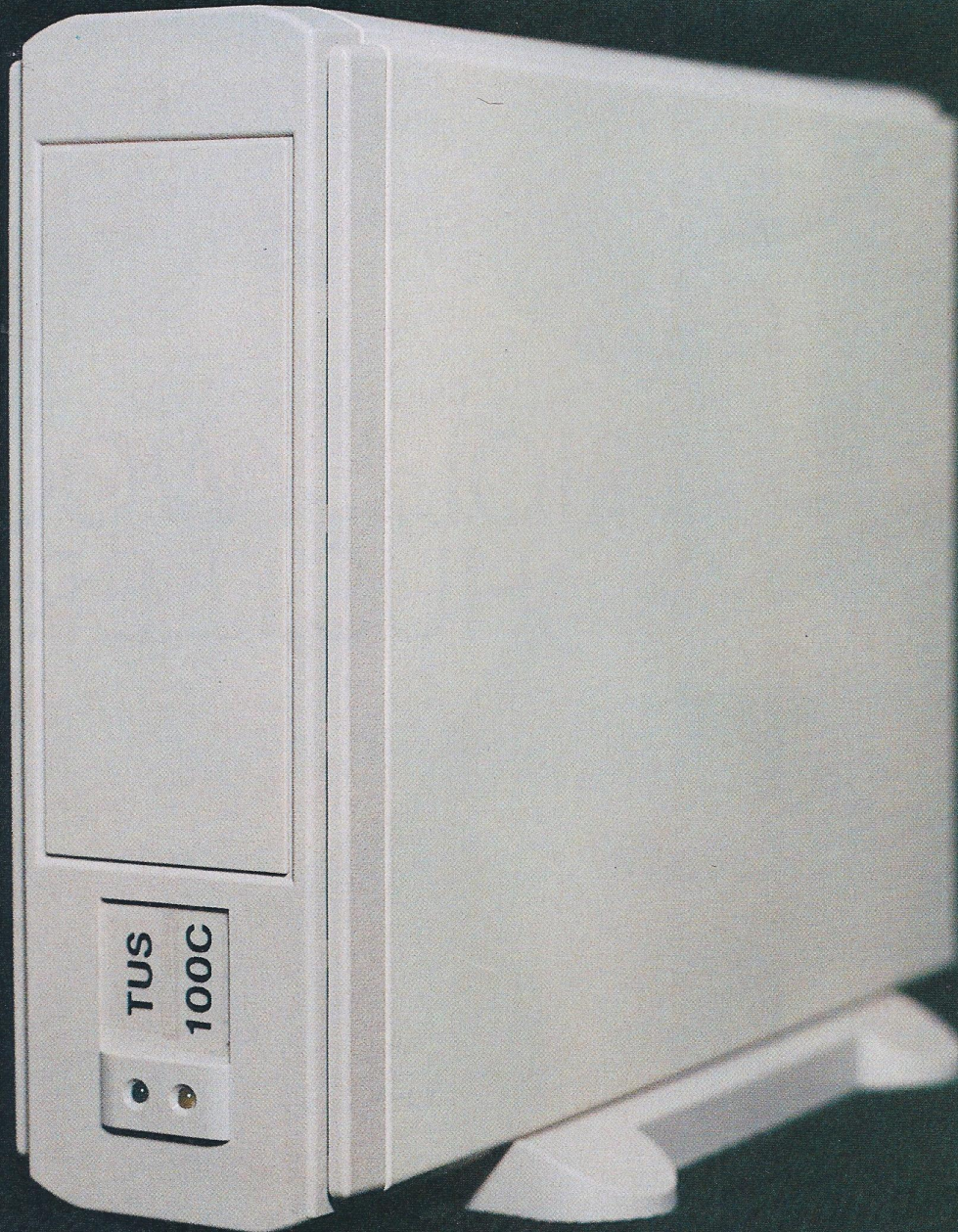
Sweet Sixteen Lite uses a very economic way of storing MIDI data (up to 40,000 events on a 520 ST) while preserving MIDI resolution at a healthy 192 ticks per quarter note (PPQN). If you're into pattern based MIDI sequencing Sweet Sixteen is a good choice, and if you outgrow the restricted

editing features in Lite, the full version has some powerful editing features (including editing during playback) and costs £49.95 from Hands On MIDI Software.



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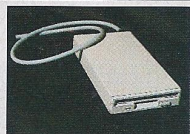
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Five to Five 2.02



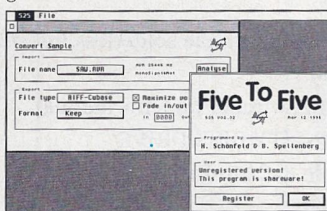
Goodman International • £1.95
• ST/STe/Falcon

Why on earth do programmers keep inventing new sample formats? Beats me but a good converter is an essential tool if you don't want to get lost in the sample jungle.

Five to Five is a shareware utility from Germany that is capable of converting to and from ten different formats. The latest version supports AIFF

(Mac and Cubase Audio), DVSM (WinRec), AVR (Atari), HSN (CrazySounds), SND, AU (Sun), WAV (PC), CIT (Fortune) and raw sample data.

It can also optimise the volume and fade the sample in or out (very useful if there is distortion at the beginning or at the end of the sample). As it converts directly to disk, it's possible to convert very large files, even on a 0.5Mb machine. Unfortunately, you have to convert file by file as there is no way to convert whole folders. Five to Five is a good little utility for everyone who deals with samples.



A Roland TB 303 sample about to be converted.

A WWW page from HENSA. HTML-Browser can only display graphics in mono but this may change with future versions.

HTML-Browser 0.5

Floppyshop • £2.00 • ST/STe/Falcon

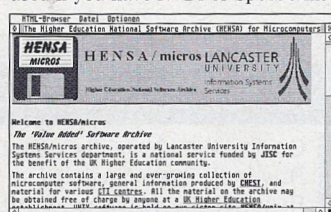


The World Wide Web (WWW) is one of the reasons for the fast growth of the Internet. But many Atari users have been left behind. HTML-Browser is a step in the right direction. WWW pages are made

from HTML (Hypertext Markup Language) documents. With the browser you can view HTML docs in their full glory.

HTML-Browser does not allow you to browse through WWW pages while on-line but it loads in HTML documents from disk instead. It is useful for people who create HTML documents but cannot see what the WWW page and layout look like until they ask a PC or a Mac owning friend!

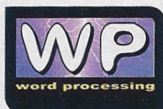
Options include the ability to spawn external programs to display graphics, text and produce sound. Vector fonts can be used if you have NVDI or Speedo installed. This program



is still being developed but is freeware and is the only program available on the Atari that can view HTML. When you know, maybe this will turn into a full WWW package for the Atari.

Translator 2.04

Floppyshop • £2.00 • ST/STe/Falcon



Translator is a no frills, word for word, translation program. The Atari scene has recently seen a lot of French PD music and graphics programs, many of which remain untranslated. This is where

Translator steps in.

The version available from Floppyshop is a registered version and it contains French and German dictionaries. German translators are abundant, but French ones are rare. The dictionaries are in ASCII which can be easily updated. The package contains utilities to reverse the dictionaries (French to English can be converted to English to French, for example). Another utility helps with the translation of binary data files.

Translator uses a simple but elegant interface with pop-up menus to adjust the source and destination languages. It can translate between any language that uses the Roman alphabet, but you will have to dig around for the dictionaries or create them yourself. Surprisingly, Translator converts text at blistering speed. It doesn't produce readable English but gives you the general idea. It certainly beats looking through a dictionary for every single word.

You can even translate from Swahili, as long as you have the appropriate dictionary.



Backup Destruction Utility 1.0



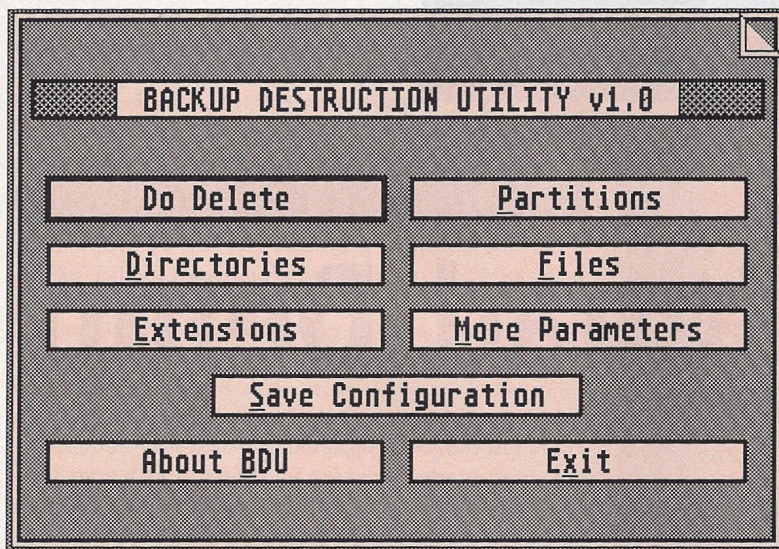
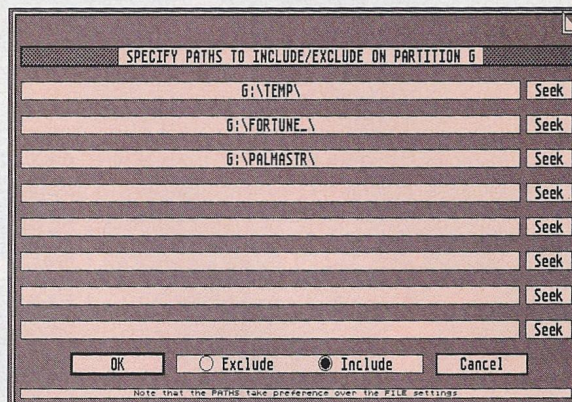
Floppyshop • £2.00 •
ST/STe/Falcon

Backup Destruction Utility (BDU) is a hard drive file management utility. It allows you to easily delete all backup files, mostly backups of text and source code (usually files with the extension .BAK). These files are often not needed and only use up valuable disk space.

BDU has a simple interface with all options just a mouse click away. These include the ability to specify up to eight

The main screen from which you can configure the program and delete files.

One of the configuration screens. Click on "Seek" and up pops the file selector to select the paths.



different backup extensions and you may include or exclude specific files to be deleted. In addition, BDU allows you to specify individual partitions within which specific folders can be skipped.

BDU comes with comprehensive documentation, explaining each option in detail. It scans drives, deleting files very quickly and can be set to ask you for confirmation before deleting each file. This gives you an extra level of security against unwanted deletions.

BDU is an ingenious program if you have a disorganised hard drive. Instead of spending hours seeking out backup files, you will just need to spend about two minutes running this program.



Songz 1.4.3

Goodman International • £1.95 • ST/STe/Falcon

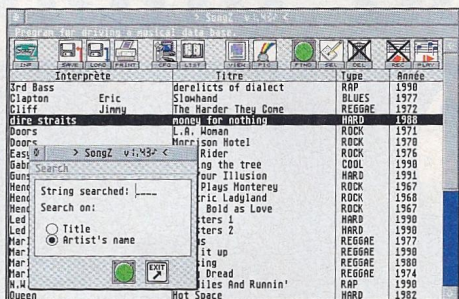


Songz is a shareware multimedia database for your music collection. You can use it to store a list of your CDs and tapes, along with track lists and images of the covers.

Falcon owners can attach sound samples

to each entry and Songz allows you to record at different sample rates.

Songz features a slick user interface with everything available from a single GEM window. It comes with a small ready to use example database to get you started. The program is reasonably easy to use despite the lack of



comprehensive documentation.

Songz uses a lot of memory, and you are advised to have at least 2Mb. This is fine on a ST but more memory is needed to use the program effectively on a Falcon. If you want to shape up your music collection then Songz is the feature packed custom database to look at.

All available functions in Songz (displayed here on a Falcon) are accessed from a single window.

Have fun creating toys... relive your childhood!



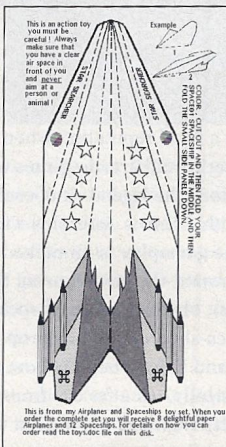
TOYS ON DISK Series 1



Locutus PDL • £2.75 •
ST/STe/Falcon

Toys On Disk is a set of two disks containing 51 PCX picture files showing you how to make paper toys. You can create a doll's house with all accessories, a barn with animals or even a whole town.

Each picture contains parts of a toy, which are very easy to make. Just print the PCX file, colour in the elements of the toy, cut them out, fold, and then paste. Simple!



PCX picture files can be viewed and printed using the likes of Picswitch, GEM-View and Imagecopy. Many hints and tips are included in the package for getting the best results from your printer.

At first glance, Toys On Disk seems a bit on the dull side but once used, you'll wonder why no one thought of the idea before. The PD version has seven toys; register to receive the full version.



Tiles can be held back for a few vital seconds to give you some thinking time.

Tessera

Goodman International • £1.95 • ST/STe/Falcon

The whole complexion of the board can change as a new tile arrives on the scene.

Tessera is Columns in reverse. Play is set on a three dimensional grid in space and the overall aim is to fill it with a set number of coloured tiles. As trivial as that sounds, it actually takes quite a bit of brain power, because no more than two similarly coloured pieces can be placed next to each other unless you want to create an almighty explosion. And, just to add insult to injury, new arrivals can push the existing tiles into different positions; one nudge and the whole geography of the board can change instantly, wrecking carefully laid plans.



Columns vibes resound throughout Tessera, but the gameplay is more demanding and borders on frustrating at times. Nevertheless, it's well presented and original enough to warrant a few plays. If you want to play beyond three stages, a

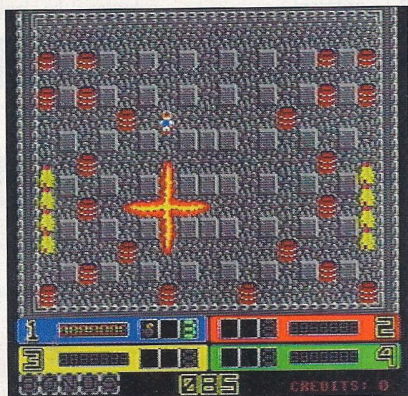
crisp (or soggy) fiver will buy you the full version.



Bomb Squad Demo

Goodman International • £1.95 • Falcon only

Power-ups increase the range of your bombs, making it easier to zap the monsters (and yourself!).



Anybody who has played DynaBusters will feel instantly at home with Bomb Squad. Essentially the gameplay is identical, but instead of wiping out other players with your

explosives, you get the opportunity to have a pop at some monsters – in other words, it's got a single player mode.

Bombs fire in straight lines only and are just as capable of incinerating your private parts, as they are the monsters', so caution is needed. Naturally, plenty of power-ups are left in the wake of exploding objects and there's a time limit just to raise the tension level one stage further. However, the game is let down by the fact that the multi-player modes don't work properly.

Bomb Squad is a neat little game: the music is good and it plays well. If they can just find the time to polish up the graphics and fix the bugs for the final release, we should be looking at a winner...



Asteroidia

Goodman International • £1.95 • Any ST (STe/Falcon enhanced)

Scrolling backgrounds and digitised music bring an old classic to life in nineties' style.

Dave Munsie has a good reputation when it comes to resurrecting old arcade games and Asteroidia continues the legend. It doesn't take long to work out that this is Asteroids with brass knobs on, and the gameplay is mimicked to a tee – just pilot your ship around the screen using the age-old twist-and-thrust system, blasting hunks of rock out of the sky.

Aliens with pea-shooters do break up the monotony a little, and the STe and Falcon benefit from a slinky scrolling background. Musically, it's a far cry from the old 2600 version too, with crisp digitised tunes used throughout on any DMA-capable machine.

The only slight problem with the game is the lack of graphical detail, in that the asteroids simply disappear without so

much as a spark, let alone explosion. Nevertheless, it's a very playable version of a downright classic game and is probably the best Asteroids clone released to date.



Nishiran

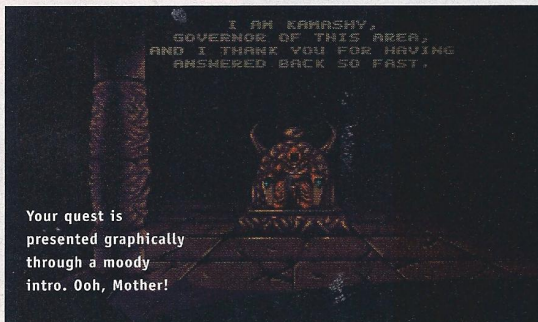


Merlin • £2.50 •
ST/Ste/Falcon

Drenium is in turmoil. An evil tyrant has taken over the planet and is plundering its resources. All previous attempts to overthrow the regime have failed and you are the sole remaining hope. An ideal setting for a Dungeon Master-style adventure game, wouldn't you say?

The game begins as your ship lands in a forest on Drenium, and the first job is to find some weapons. The usual concoction of implausible materials are needed and the main problem is navigation, because wooded glades tend to look the same the universe over. Any objects you find can be dragged straight into the inventory and a panel of icons is used to guide the ship around the planet surface. The gameplay is made more interesting by the addition of a chemical lab that allows you to construct extra batteries for the shield on your craft and all sorts of other goodies. It is quite difficult to understand what's going on at first, but a healthy collection of tips are included on disk to get you started. A save option also eases the pressure a little – just as well when there are vampire plants lurking around every corner!

The presentation backs up the gameplay nicely, from the stylish intro right through to the sombre in-game visuals. There is no music as such, but apparently you can use one of



Your quest is presented graphically through a moody intro. Ooh, Mother!

the many public domain module players to add your own tunes, if necessary. You might also want to disable the sound effects by holding down 'S' during the start-up sequence, because the metallic footsteps of your craft grate after a while.

Overall, Nishiran is a competent role-playing game, and one ideally suited to pros. It's not in the same league as Towers 2, but you can hardly complain at ten dollars for the full product...

(top) "Hmm – looks harmless enough" he says, seconds before it bites his head off...

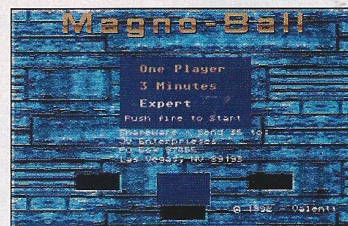
(bottom) New objects can be dragged directly to the inventory and used to defeat the killer plants.



Magno-Ball

Floppyshop • £2.00 • ST/Ste/Falcon

Public domain sports games are quite thin on the ground, so it's nice to find a title that plugs the gap a little. Despite the



fact that Magno-Ball is set in the distant future, the gameplay is suspiciously similar to one-a-side football, albeit in trendy tanks. The metallic pitch is viewed through two panels (one for each player) and a radar helps out in locating the ball. A collision on the part of either player passes as a tackle and sends the ball flying off into oblivion. It's often more difficult to find a goal than to actually score because the damn things constantly change position.

Magno-Ball is quite well executed, but not really complex enough to keep your attention for long. It did make me want to dig out Speedball for a go at the real thing though...

Three skill levels are available, but that can't make up for the over-simplistic gameplay.

The two-screen approach can be a bit disorienting at first, but you soon get used to it.

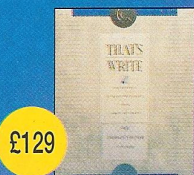


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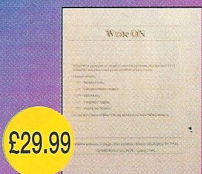
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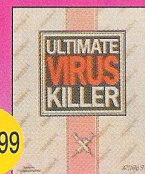
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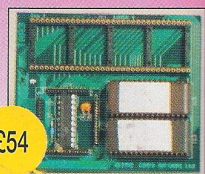
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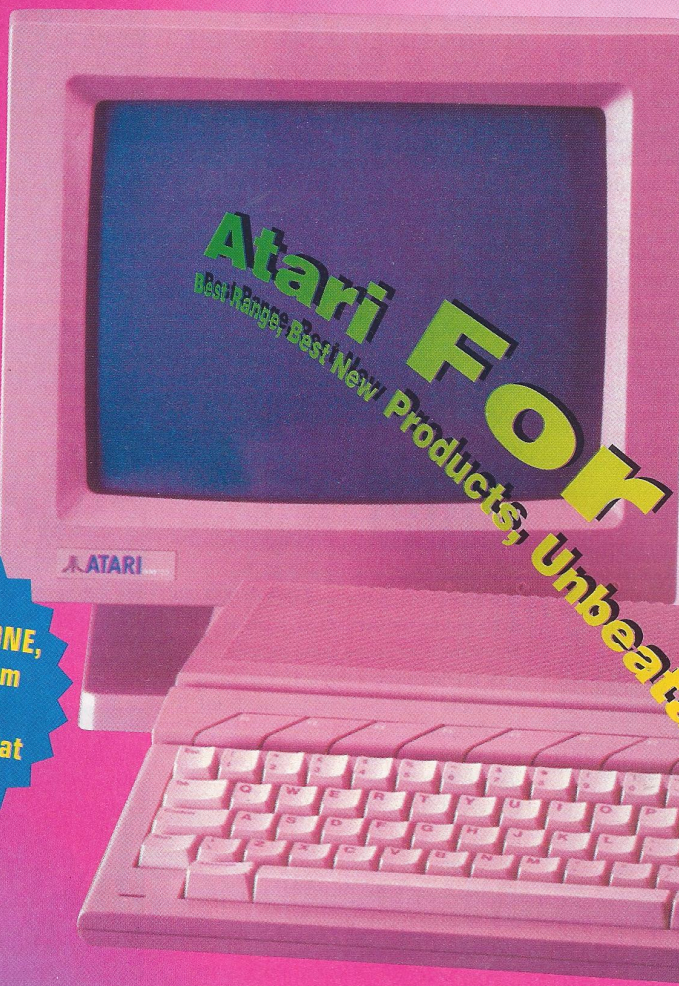
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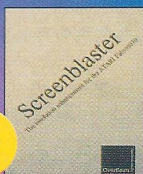
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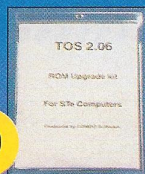
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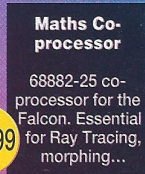
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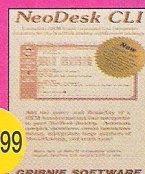
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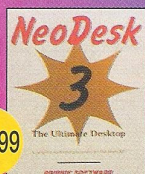
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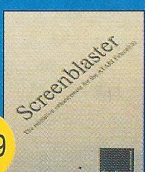
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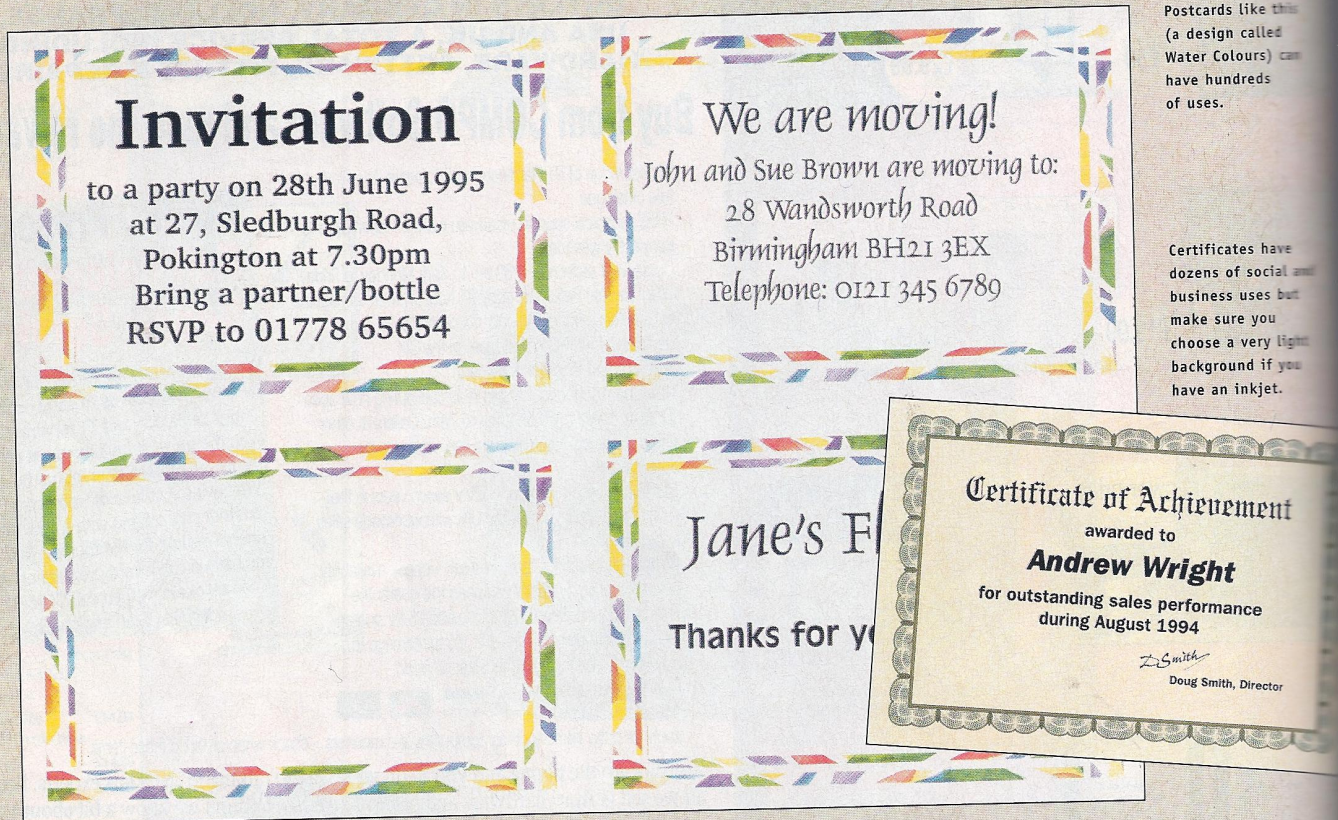
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Colour on the



Paper handling help

In the DeskJet, paper is loaded from a horizontal tray or feeder and in general there is no problem with most printing jobs such as letters or DTP documents including pictures. However, problems can and do occur more often when feeding the same paper through the feeder for a second time or more. If you're doing a lot of double-sided output such as newsletters or printing a full colour picture built up from three or more colour separations, the quality can suffer. These paper loading problems can be categorised into three main types:

● Crinkling or warping of paper

Crinkling or warping of paper can be the result of leaving paper exposed to moist air in the paper tray for too long. Some papers like the more roughly grained types are more prone to absorbing moisture in this way than others. It is always recommended to keep paper not being used for any amount of time tightly sealed in its original packet.

● Paper loading unevenly and at an angle

Paper loading unevenly is often due to the paper guide failing to hold the paper in its proper place. This usually happens when the paper is loaded for a second time or more with curled edges, making the paper no longer a flat surface. This is also a cause of paper crinkling and warping.

To cure this problem make sure that the front of the paper stack is under the front guides when loading and that it has not curled up missing them (you will have to lift the lid to check this).

● Two pieces of paper loading at the same time

More than one piece of paper may load at a time when you have different types of paper in your feeder stack. Keeping the paper stack filled with the same paper type will reduce the chances of this problem occurring.

Last month we showed you how to get colour on the cheap. This month Andrew Wright demonstrates yet another way and Paul Keller rounds off with troubleshooting advice...

A good quality paper is of primary importance when producing artwork or graphics output of any kind from an inkjet printer. The vast majority of inkjet users are happily printing to copier quality white paper between 80 and 100gsm in density. However, that doesn't mean they're getting the best results. Some papers are marked inkjet compatible and these are generally the best type for working with these machines, although not the only kind.

It is well worth experimenting with the different types of paper available as the quality can vary greatly. Such experimentation will help you make the

right choice when buying and indeed many print shops and office equipment retailers will let you take one or two sample sheets home.

Remember that laser and inkjet papers are mutually exclusive – lasers need smooth paper while monochrome inkjets need a more absorbent type to stop the ink sliding off the paper. However, if the paper is too coarse, the ink will tend to splash – if you look closely you will see that the characters appear slightly fuzzy. Paradoxically, colour inkjets need smooth paper too so that the colours don't feather and bleed together but then the tendency for ink to slide off the paper reduces the sharpness of text.

cheap

To get around the problem Hewlett-Packard designed special LX Series paper for DeskJets. The clay-coated paper costs around 10p a sheet and is well worthwhile for final copies. HP's glossy inkjet paper provides a good-looking high gloss finish and solid bright colours. It works well with black ink too but at around £1 a sheet it's best kept for best.

Colour letterheads

To get a full set of business stationery commercially printed, using traditional offset lithography, will make a big hole in a small budget, particularly if you're using colour. Of course, if you do buy letterheads in bulk, Sod's Law dictates that something will need changing within a few months. You might change your phone or fax number, e-mail ID or even move address. And it's back to the printers...

So what's the alternative? Companies like Paper Direct offer professionally designed ready printed papers on top of which you can overlay your own company details, text and

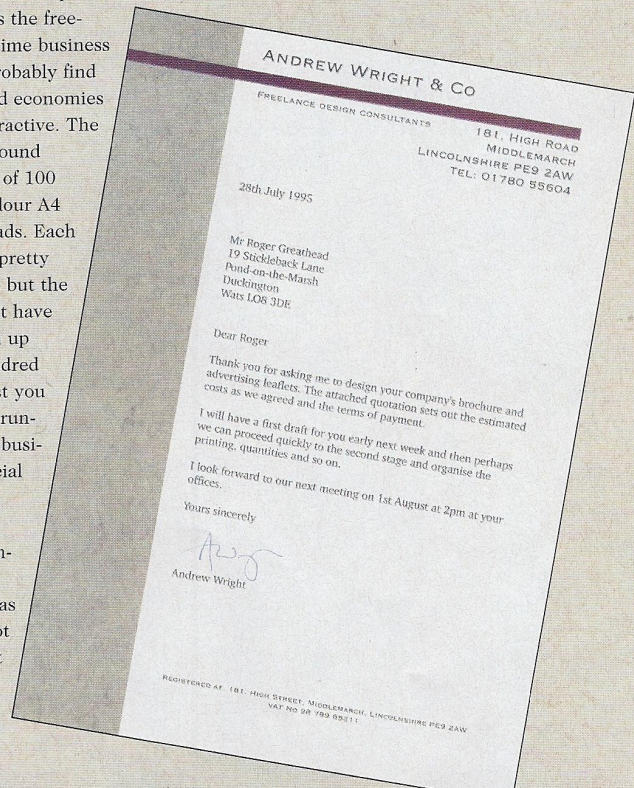
Pre-printed letterheads are ideal for DeskJet owners. This PaperDirect style is called Acropolis.

logo using a laser or inkjet printer. The list includes four colour business cards, labels, postcards, letterheads, posters, certificates, folding brochures, all supplied on A4 sheets and perforated where necessary. There are colour-coordinated envelopes and presentation folders too.

The Paper Direct range is ideal for any small business and private individual but it's the free-lances and part-time business users that will probably find the flexibility and economies of scale most attractive. The prices start at around £15.95 for a box of 100 sheets of four-colour A4 105gsm letterheads. Each sheet works out pretty expensive at 16p but the point is you don't have to fork out much up front. Those hundred sheets should last you a while if you're running a part-time business or a few social events.

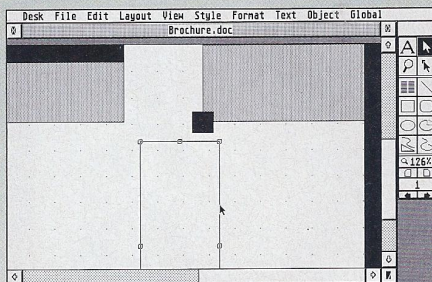
Not all the papers are recommended for use with inkjets but as long as you're not planning to print over the coloured areas, the results are

still perfectly useable. The results from older Deskjets like the 500 are just about acceptable on the predominantly white designs while the new Deskjet 520 and 540, with higher resolution and improved print head, produces much crisper output with a lot less spray. If you want cheap but highly professional colour stationery, this is a pretty good method.

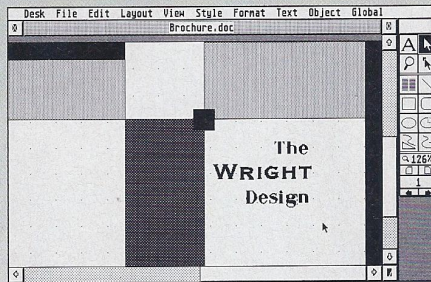


Creating a template

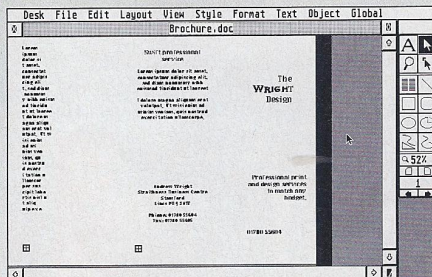
The best way to create a template for your pre-printed stationery is to measure the design using a ruler and identically placed blocks on screen so that you can see where not to put your text. This is much easier in a DTP program like Pagemaster, of course, because it has its own graphics tools.



Recreate the design using simple shapes.



With the template in position you can position your text around the design elements.



Finally you remove all the design elements and simply print the text directly onto the pre-printed paper.



Le voilà! The finished article.

Where to go

Pre-printed laser-ready stationery in various designs is available from Paper Direct (0800 616244) at £15.95 per 100 sheets. LX JetSeries glossy inkjet paper costs £52.88 for 50 sheets while the LX JetSeries clay-coated inkjet paper retails at £20.21 for 200 sheets. Contact Hewlett-Packard on 01344 369222.

Clearing blockages

If your DeskJet's nozzles block or become damaged, it can totally spoil any of your printed work, especially if you are producing tones or halftone pictures.

You can use the self-clean function built into the printer but there are several better methods.

- With minor print blockages wipe the print head very gently with a damp tissue.
- For more stubborn blockages soak the print head in isopropyl alcohol (available from chemists) and allow it to dry before replacing.
- If the above tip doesn't work, as a last resort try Rodesign's inkjet head recovery kit. This kit contains real acid, so some caution is needed in its handling.
- On the new HP51626A cartridge hold the bottom hole with some tissue while forcing some air through the meshed hole in the top. You can do this with a syringe or by blowing. This will force ink out through the print nozzle.

Harder SCSI Drives

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SCSI Hard Drive of the Year 1994



Never mind the language

The NVDI program proper...

```

NVDI V2.50
© 1991-93 by Sven & Wilfried Behne
Distributed by BELA Computer GmbH

ASSIGN.SYS loaded
GDOS path: C:\DRIVERS\
User:
Dr Jon Ellis
  
```

... installs a cookie...

... so its CPX can find it.

Slow and clunky, or slick and quick?
Jon Ellis looks at interface design...

Every program needs an interface of some kind. Communication with the user is vital, whether it be a simple two line message saying that a system bug fix is installed or a complex array of dialogues and menus. Over the next few months, we will look at the key issues in interface programming, starting with those affecting the simplest type of program, the AUTO folder patch.

These range from simple programs for curing bugs in the operating system through to major system enhancements like MiNT or NVDI. Their interface needs are the most straightforward. In most cases a text message giving the barest details about the program (name, version and author or publisher) will suffice. Extra text can be used to inform the user about details of the installation – for example, a RAMdisk program might announce its capacity and drive letter.

When composing the text, include one or two blank lines before and after the sign-on message. This keeps the screen layout neat and keeps your text separate from other software's messages. Another point to watch out for is the screen width because many users boot their

Tech Tips – VT52 codes

When printing text to the screen, a variety of special effects can be produced by including control sequences in the string. The control codes are compatible with a protocol called VT52, which originated in the world of comms. Most of the VT52 control codes are concerned with cursor movement, but four affect the way text is printed:

ESC p	Turns reverse video on
ESC q	Turns reverse video off
ESC b <col>	Changes ink colour
ESC c <col>	Changes paper colour

The ink is the colour used to print the character and the paper is the background colour. The expression <col> should be replaced by a single character indicating the colour to be used:

Colour	Character	ASCII code
White	0	(ASCII 48)
Red	1	(ASCII 49)
Green	2	(ASCII 50)
Yellow	3	(ASCII 51)
Blue	4	(ASCII 52)
Magenta	5	(ASCII 53)
Cyan	6	(ASCII 54)
Light grey	7	(ASCII 55)
Dark grey	8	(ASCII 56)
Light red	9	(ASCII 57)
Light green	:	(ASCII 58)
Light yellow	;	(ASCII 59)
Light blue	=	(ASCII 60)
Light magenta	=	(ASCII 61)
Light cyan	=	(ASCII 62)
Black	?	(ASCII 63)

Note that these colour codes are not the same as those used by GEM. In the VDI for example, black is colour 1, whereas it is colour 15 in this scheme. In four colour modes, only the lowest two bits of the code are examined, so colours 0, 4, 8 and 12 are all interpreted as white. In monochrome, only one bit is used, so all even-numbered colours are treated as white, and all odd-numbered ones as black.

Inverse Video

Colour 1
Colour 2
Colour 3
Colour 4
Colour 5
Colour 6
Colour 7
Colour 8
Colour 9
Colour 10
Colour 11
Colour 12
Colour 13
Colour 14
Colour 15
Colour 0
Colour 1
Colour 2
Colour 3
Colour 4
Colour 5
Colour 6
Colour 7
Colour 8
Colour 9
Colour 10
Colour 11

There are two major problems with using colour. First, changing the paper colour can lead to odd effects when the screen scrolls. Secondly, and much worse, support for the ESC b and ESC c seems to vary depending on which version of TOS is in use. TOS 1.4 behaves as described above, whereas TOS 4.02 ignores the request for a colour change. NVDI supports these codes correctly.

To use VT52 codes in text messages, simply print the control sequence to the screen. For example:

```
PRINT CHR$(27);"pInverted Title
!";CHR$(27);"q" (in BASIC)
```

```
printf("\033pInverted Title
!\033q\n"); (in C)
```

Finally, if you use these special effects, do remember to turn them off. Other programs in the auto folder will be expecting the default conditions, in other words black text on a white background.

A riot of colours from the VT52 control codes!

machine in a low resolution mode where there are only 40 characters per line.

Text messages can be livened up with some simple text effects like inverse video and colour – see the accompanying panel for more details.

User interaction with auto folder programs is awkward because GEM is not completely initialised at the time they run. There are a couple of solutions to this problem. For system patches and the like, the best solution is to provide a separate CPX module to configure the program. The auto folder software should install an entry in the Cookie Jar to allow the CPX to find

it in memory (the Cookie Jar is a protocol designed by Atari to allow programs to advertise their presence to other programs). If access to the configuration options is likely to be needed only infrequently, then a conventional GEM program is probably as good as a CPX.

Programs that require substantial interaction with the user during AUTO folder execution, such as boot managers for example, pose a bigger challenge. The choice seems to lie between writing a character-based interface or creating a custom interface using the part of GEM that is active. No prizes for guessing which is the prettier!

Tech Tips – auto folder VDI

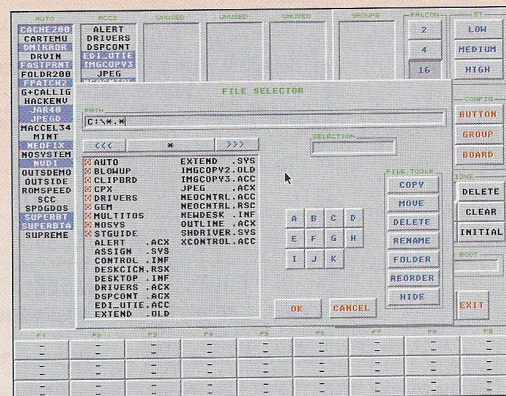
If you need to perform significant user interaction in a program that runs from the AUTO folder, then it is possible to use GEM to do so, though there are restrictions. The fundamental rule is that you cannot use the AES, as it has not been initialised at the time the AUTO folder is executed. As a result, programs must use their own interfaces using VDI calls.

Working with the VDI in this environment requires a particular set of initialisation steps.

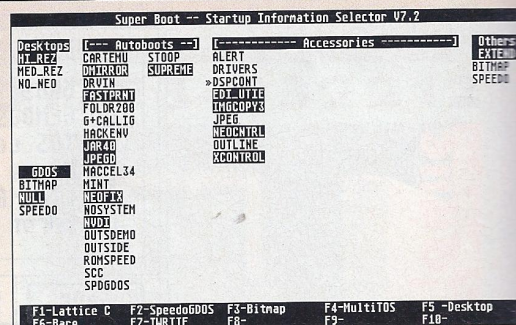
- Determine that the program really is running from the auto folder. To do this, you need to call the code below. This function returns true if the program is running from the auto folder, and false if not.

```
is_AUTO  move.w    #$C9,d0      Probe for presence of AES, by calling
        trap      #2           GEM with a special code.
        cmp.w     #$C9,d0      If unchanged on return, we have no AES.
        beq.s     1$          Jump to make correct return value.
        clr.l     d0           Return FALSE if not in AES.
        rts
1$      moveq     #1,d0        Else return 1 (TRUE).
        rts
```

- Open a physical workstation for the screen using the v_opnwk() function. For the device number (work_in[0]), use the value returned by Getrez() + 2.
- Open a virtual workstation using the physical handle obtained in step 2. From now on, program the VDI normally, using the virtual workstation handle.
- Before the program exits, close the virtual workstation with v_clsvwk(), and then the physical workstation with v_clswk(). Forget to do this, and the AES will get very upset!



Superboot has a simple character-based interface.



Boot managers need a home-grown interface to work from the auto folder. SToop is a beauty.

DIGITAL ARTS

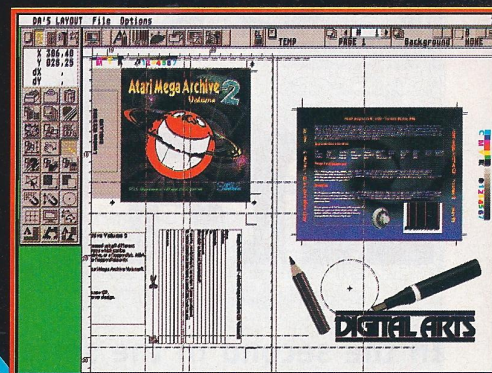
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Professional Design Software for the Atari

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- * Irregular Text Flow.
- * Works on all Atari computers with at least 2Mb of Ram, and a resolution of at least 640 x 400. Works in all mono and colour modes, including graphics cards.
- * Fully MagiC & MagiMac compatible.
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DA's Vector Pro



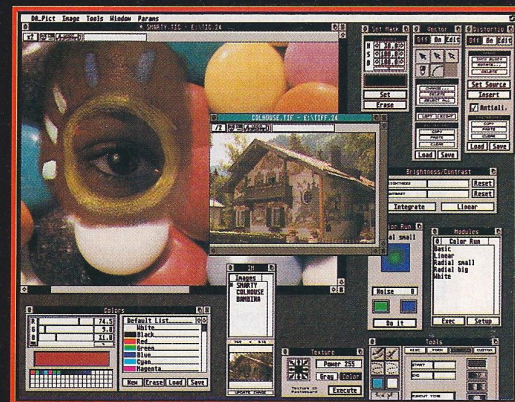
DA's Vector takes Vector Graphics into a new generation. This package has established itself as the number one Vector Creator on the Atari platform.

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DA's Picture is an all-in-one Bitmap Art and Retouching package. The user friendly interface allows anyone to create professional-looking colour artwork.

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- * Powerful Printing methods producing very vivid colours on colour printers.
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- * Supports Virtual Memory for files larger than available RAM.
- * Works on all Atari computers with at least 2Mb of Ram and a resolution of at least 640 x 400. Works in all mono and colour modes, including graphics cards.



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System Solutions

Feel like makin' Web

In the second in the series, Alexa Robinson and Graeme Rutt start making it together...

Netscape Extensions

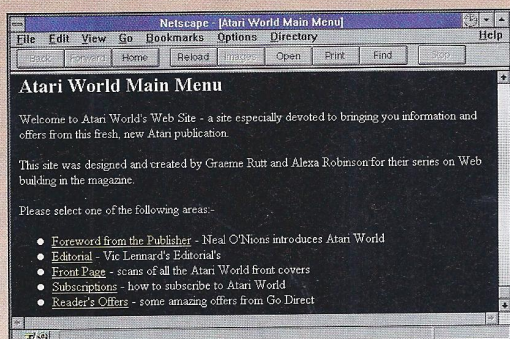
As we touched on last month, Netscape (the world's favourite browser) has some extensions that can really add to your presentation. One of my favourites is the addition to the <BODY> tag called attributes.

<BODY BGCOLOR="#RRGGBB">Document Here</BODY> changes the colour of the background, where #RRGGBB are the red/green/blue colour components. There are also attributes for the text colour and hypertext links (standard, already visited and activated).

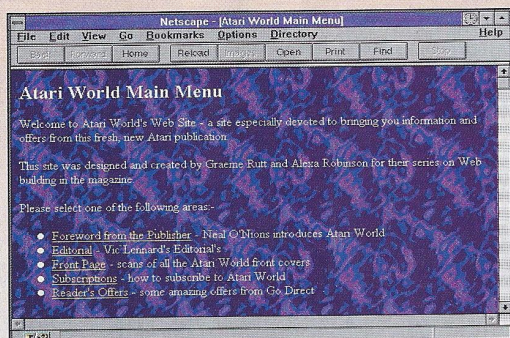
In fact, by adding the following extensions to our page we get a graphic such as that in the top picture:

```
<BODY BGCOLOR="#000000" TEXT="#F0F0F0" LINK="#FFFF00"
VLINK="#22AA22" ALINK="#0077FF">
```

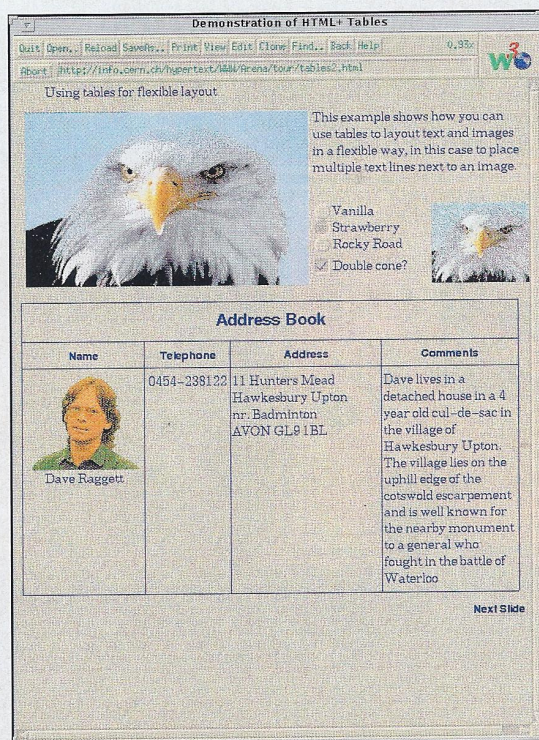
Finally, if instead of BGCOLOR we use the BACKGROUND = "filename.gif" attribute we can use a picture for our background as in the bottom picture.



Changing the background colour.



Adding a background image.



A sample of the advanced use of HTML+.

Writing Hypertext Markup Language code (HTML) is probably one of the easiest forms of computer programming. It could be argued that it is just another set of layout commands, and not programming at all, but if you consider that a well-designed World Wide Web site is interactive, allowing the viewer to make a series of choices, then thinking of HTML in programming terms makes much more sense. It should certainly help you to gain a better understanding of your own project design.

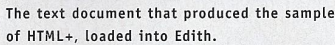
In terms of layout, it can be frustrating when you realise that you cannot choose the exact font the viewer will use. You can't even be certain which browser they'll be using – or even which computer – though I see many reports

that Netscape is the world leader at this time. I for one am not using it because, unfortunately, it has not been ported to the Atari.

As the popularity of the World Wide Web grows, so does competition among commercial browsers, and while HTML was once a single, standard set of commands, now with each new browser, comes an extended command list, that allows the browser to see things another browser won't.

The most basic example of this is the simple Centre command. Netscape has always allowed you to centre pictures and headings while Mosaic (reportedly the second most popular browser and a freeware one at that) doesn't recognise this feature at this time!

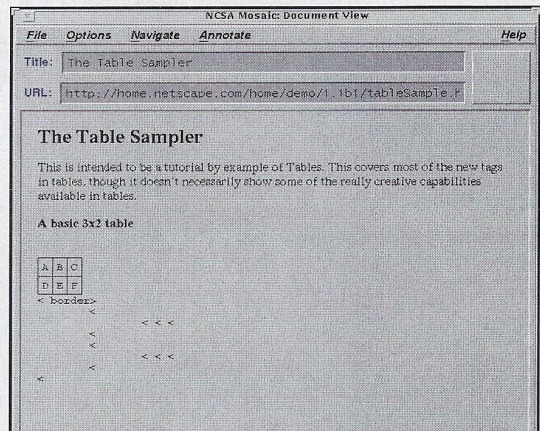
As you can see from the examples on this page, browsers display the exact same HTML code in a variety of ways



Good old Edith

are a form of shorthand that, with a couple of letters and one hit on the Escape key, place the full HTML command with the cursor properly positioned for specific data input. My version came with a basic set of HTML codes already available and the option to add more codes at my discretion.

There is plenty of documentation on HTML codes freely available on the Web. To start, the Netscape information can be found at <http://www.mcom.com/> and instructions for Mosaic are located at <http://info.cern.ch/hypertext/WWW/MarkUp/>. These two addresses alone will get you started building your own list of commands for your pages. Good luck and happy Web weaving!

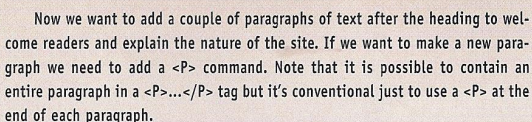


HTML isn't complex. It's a simple, rather deliberate attempt at making Web coding as painless as possible for the academics whom it was originally designed for. There is one simple rule (though it's sometimes broken) and that is that all text in your document is shown as text unless it's altered by being contained within an HTML tag.

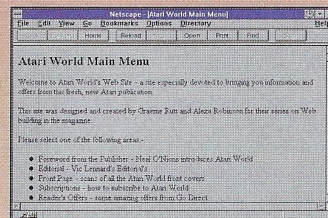
For example, to make the word "Hello" appear in bold text you'd do this: `<B>Hello</B>`. Note that for the sake of clarity I'll be showing all tags in capitals but there is no requirement to do this.

So our template for the menu (Figure 1) looks like this:

Figure 1: The starting point, just a title and heading.



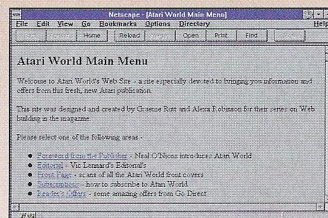
-
- Foreword from the publisher – Neal O’Nions introduces Atari World
- Editorial – Vic Lennard’s editorials
- Front Page – scans of all the Atari World front covers
- Subscriptions – how to subscribe to Atari World
- Reader Offers – some amazing offers from Go Direct
-



Now all we have left to do to make our page fully working is to add the links. Each item in the text menu will link to its own page (as yet unwritten) so that all the reader need do is select a link to bring up that page. We use the anchor command structure (Figure 3) which looks like this:

So our first entry now reads:

```
<LI><A HREF = "foreword.htm">Foreword from our publisher</A> - Neal O'Nions  
introduces Atari World
```



Well that's as much as we can cover in this month's blast through HTML coding. Next month we'll be taking a closer look at links and adding graphics to your pages. If you'd like to write to us about this, or any other comms related issue, then our e-mail addresses are alexa@cix.compulink.co.uk and sabbath@cix.compulink.co.uk.

(Bottom) The same document viewed with an early version of Mosaic.

Clubbin'

On the road again, Harry Sideras takes a no frills look at LACE – the London Atari Computer Enthusiast user group.



The London Atari Computer Enthusiast user group, LACE, is one of only two user groups in the country that still support the old 8-bit Ataris. It is organised very differently from the Cheshunt club I visited last month. In the first place the venue for the meetings is most often at the home of Peter Mattock, the chairman, or the treasurer, Roy Whiteman, although more recently they've been hiring a room in Central London, which was where I visited them.

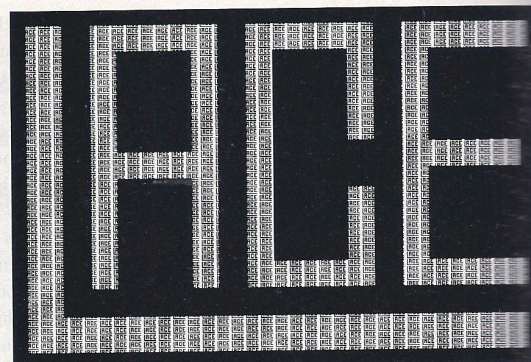
Until Peter's recent move there was a dedicated, if under-used BBS for the club, but the most prominent feature of LACE is the production of a club newsletter. The newsletter provides an ideal way of keeping members in touch, answering postal questions as well as providing minutes of each monthly meeting. Any new members also get a resume of their setup and individual interests publicised to one and all, taken from the membership application forms they are given to fill out.

The newsletter also provides articles and tutorials on various ST and Classic hardware and software upgrades. Recent issues have included an 11-part series on getting the most out of NeoDesk 3 and some highly technical hardware modifications for the 800XL

and 130XE machines. Dangerous stuff, if you ask me, but will this be the shape of things to come for the ST in ten years time?

To the letter

This all sounds adventurous stuff for a monthly newsletter, but how is it



The LACE logo.

Another bleached blonde digitised on the Atari 8-bit Classic.

(Below) Atari 8-bit emulation came to the ST with ST Xformer.

(Bottom) Rufrade, the German to English translator reviewed in issue 1, features on LACE's club disk.

produced? In a down-to-earth way is the answer. Roger's setup comprises an 8-bit 130XE with 576Kb of RAM and the Atariwriter cartridge. The text is transferred via modem to a 4Mb STe with STWriter v4.8 and output directly from that in condensed two column mode to a Canon BJ10ex printer. Not a DTP program in sight and yet an excellent and most presentable example of how to convey useful tricks and tips to the membership.

Whatever the venue, meetings always start the same, surprisingly formal way – confirming the minutes and going through all the correspondence since the last meeting. In the main this means answering postal queries from other members and pooling everyone's experience to provide an answer that'll put them on the right road to recovery. After this it's every man for himself!

There's always an ST and XE machine available for demoing new software or solving old problems but the evening eventually gets dominated by Peter's frightening stories of mystic hardware hacks. That's not something for the squeamish especially when you hear about the problems he has with his Sony TV/monitor...

Whatever the subject though, there's someone with an answer or a helpful clue. That's something you can always be sure of in the Atari user group community.

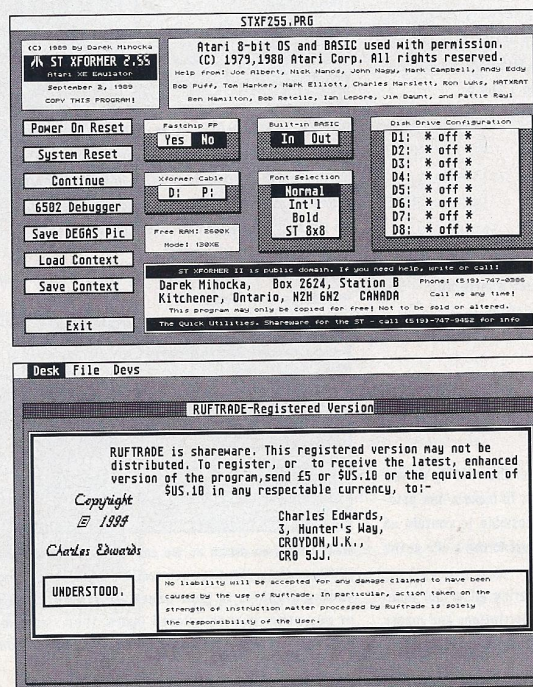
Making contact

LACE meets regularly on the first Friday of each month, but as the venue isn't fixed you're best advised to contact Roger first. Membership costs £8 annually and includes delivery of the monthly newsletter and a club disk for ST or 8-bit Classic.

Mr Roger Lacey
LACE Secretary
41, Henryson Road
Crofton Park
London SE4 1HL
Tel: 0181 690 2548

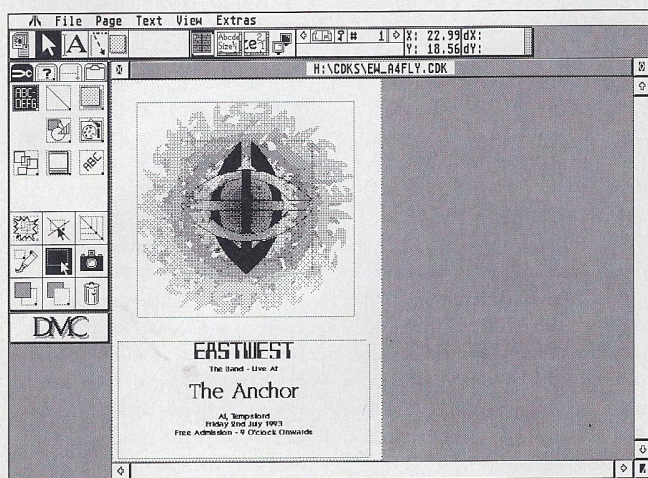
Feedback

As always all feedback is gladly received. You can contact me at the magazine or via email to sidcelery@cix.compulink.co.uk.



Q&A

You send in the questions – Ofir Gal and his team of experts set about solving 'em...



Calamus lockout



Q I purchased a Systems Solutions 127Mb

MiniS hard drive for my Mega 4 ST recently as my old 40Mb Triangle Turbo Drive had become unreliable. The new hard drive is connected to my ST with an ICD SCSI Link and the driver is v 6.5.1. The problem I have with this set-up is that Calamus 1.09n seems to lock-up on the second attempt to access the hard disk. This makes Calamus totally unuseable and I have had to resort to my old hard disk to use this program.

I have sought advice from System Solutions and was told the problem is with Calamus. JCA Europe, the Calamus distributor in Britain, has told me that the problem is with the ICD driver settings or cache. I have tried all the combinations I can think of with no improvement.

I have also tried removing all desk accessories and auto programs to simplify the set-up but Calamus still locks up!

I understand that Calamus is a "dirty" program in that it takes liberties with the ST's operating system. Is

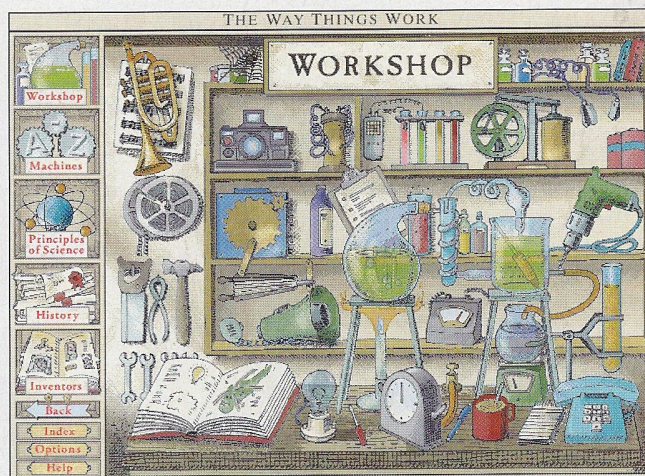
Calamus 1.09n – not as "dirty" a program as you might think.

this the root of the problem and are the hard disk driver and Calamus irreconcilable?

Tom Ryan, Bedfordshire

A Your problem has certainly perplexed the learned and wise in the Atari World (UK division). No-one's experienced any problem like this with Calamus (which isn't quite as non-standard as you suggest) and I'm afraid I can't offer you any kind of easy solution. However, I can suggest some things to try and some ways of testing to see what's wrong.

The first thing to try (again) is the caching. Use the ICD software and turn it off entirely. The fact that it locks up on the second try really points towards a problem in this area. Remember, when testing anything like this remove all accessories and programs from your auto folder. If this doesn't work then try upgrading the ICD software. The latest version is 6.5.5 and Systems Solutions will offer you a free upgrade.



You could also try to use different driver software. AHDI (from Atari, also available from public domain libraries) has never let me down once. You need version 5.0.3, which is the best choice for your system. Beware though that changing from ICD to AHDI can sometimes trash the data on your hard disk – make a back-up of any data you have on there first.

What you might like to do before this possibly hazardous change is to track down where the problem lies. Find an Atari owning friend and try out your set-up (specifically the hard disk and ICD Link) on his machine. If it works then you probably either have a hardware fault on your computer, or more likely your version of TOS has bugs. If using a hard disk with an Atari you should always use TOS 1.04 or later.

I'm sorry I can't be more helpful with your problem. If, hopefully when, you track down the problem, let me know the final solution. Graeme Rutt

Jag to ST



Q Is there a device to connect an STFM to the Jaguar to allow the STFM to make use of the graphics display of the Jag? Also, will there be any way to make use of the wonderful PC CD-ROM software like the encyclopaedias and the great Stephen Beisty cross-section books on the Jag?

Finally, once I get the CD-ROM drive, I'd like to connect the existing CD auto-changer to the Jag CD drive to allow programming of various tracks from lots of different CDs while using the Virtual Light Machine. Will this be possible?

George Nash, Co. Durham

Will the Jaguar host the likes of The Way Things Work, just one of Dorling Kindersley's excellent multimedia products.

A There is nothing currently available to connect an ST to a Jaguar and I doubt it's even possible to do what you want.

There is also nothing available or planned that will allow you to use PC CD-ROMs. One small glimmer of hope though is that Dorling Kindersley, which has produced some very highly rated CD-ROMs for the PC, are looking at the Jaguar as a possible target machine. Atari has advised me that Dorling Kindersley has been

Music Maestro



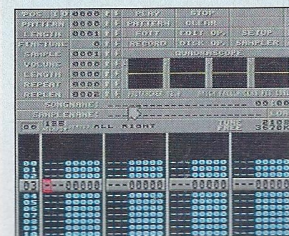
TIP A helpful tip for those people using PROTracker v2 who are in need of a spot of light relaxation from the hassles of composing.

- First click on the disk icon to access the disk control menu.
- Then click on the blank square in the top right hand corner.

As if by magic a small, yet perfectly formed, game of breakout greets you. Clicking on the left mouse button starts the game; clicking on the right mouse button it, bringing a white arrow into view. Placing the white arrow back on the square and clicking the left mouse button will re-start it.

What's more you can have your module playing in the background, but this does slow the game down a bit!

Matt Smith, Kent



ProTracker incorporates a game of breakout – an interesting way to program...

sent a demo machine and development kit information. I have been unable to get a definite answer from Dorling Kindersley as to its decision though. Try giving them a call on 0171 836 5411 to let them know you're interested.

Finally, the Jaguar CD-ROM can be programmed like a normal CD player to play whichever tracks you want on your music CDs. It can be attached to the audio inputs of your hi-fi so you can enjoy Jeff Minter's VLM graphics with your favourite tracks. Atari was unable to confirm if external CD players can be connected though, so unless Atari ever releases an auto-changing Jag CD player, you're out of luck. *Iain Laskey*

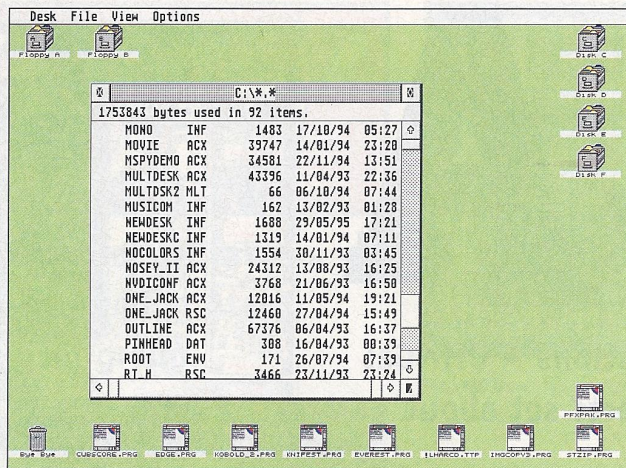
Floppy or hard?



Q For some time now I've been deliberating between buying a second, external floppy drive and a hard disk. I use my machine for word processing and MIDI applications but I'd like to get into desktop publishing. I realise that a hard disk will give me a lot of fast disk space but the prices put me off. A second floppy costs next to nothing and will double my storage. Can you give me some advice?

Rodney Salmon, Herts

A My advice is simple: forget the floppy and buy a hard disk. A hard disk shouldn't be looked upon as just a large, fast version of a floppy – it's a device that will revolutionise your machine, turning it from a simple home computer into a computer



You're in trouble if your NEWDESK.INF exceeds 4,096 bytes. This one's OK – for the moment...

system. You're opening up avenues that are closed to non-hard disk traffic: effective desktops, different boot-ups for different tasks, and fast, effective accessing of all your data.

If you go for a second-hand hard disk it shouldn't cost too much either – look for a SCSI drive in Loot and then buy a host adaptor from a reputable Atari retailer. For more info, check out this month's *Atari Pro*. *Graeme Rutt*

Desktop overflow



Q I keep on getting the message "STOP – The system is out of memory" on my Falcon whenever I try to open an application from the desktop. This happens even when I have booted without any AUTO programs or desk accessories, and there is 3.5Mb of

free memory. The only reason I can think of is that there is a limit on the number of icons you can place on the desktop or the number of applications you can have installed. If this is the case, would an alternative desktop such as Ease solve the problem?

Kai Svvennsen, Essex

A You have managed to isolate the problem without much help. You are correct, the message you are seeing is indeed related to the number of icons and applications installed. But let me give you a more complete explanation.

What the rather cryptic alert message really means is that the desktop, or rather the shell buffer, is overflowing. This buffer is a small area of memory where the desktop holds information about which applications have icons on the desktop, what file types are assigned to which application and so on. The contents of the buffer are saved to

disk when you save the desktop and stored in a file called NEWDESK.INF.

While the desktop can only load a NEWDESK.INF file no bigger than 4,096 bytes, it still allows you to create a bigger one. The problem is that it gets confused the next time you boot when it tries to load the file. Another possible cause of the problem is that you have edited the NEWDESK.INF file manually, and inadvertently removed some of the invisible spaces in it. Some text editors do this automatically. This also confuses the desktop.

There are several solutions to the problem. The simplest one is to install a program called SHELLBUF which was written by Martin Osieka, author of GEMRAM and WINX. The program allows you to increase the shell buffer size but requires you to load GEM into RAM which will use a considerable amount of memory. You require GEMRAM or preferably ROMSPEED to run before SHELLBUF in the AUTO folder. All these programs are free and should be available from PD libraries. Alternatively get a replacement desktop. There is a good choice, both shareware and commercial. Personally I prefer Ease, but some people swear by NeoDesk. Any of these will solve your problem.

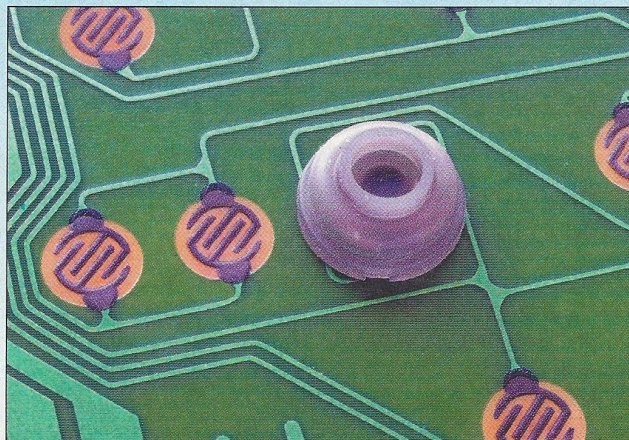
Whichever solution you choose, you must first delete your current NEWDESK.INF and create

Bad contact

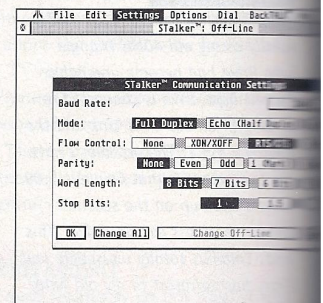
TIP If at any time you have to remove the keyboard from your ST to re-solder the mouse and joystick ports for example, try not to disturb the keyboard rubber cups that cover the keyboard contacts. It makes assembly much easier if they have not been dislodged.

Look carefully and you will see that not all the contacts have corresponding cups. I know of some people spending some considerable time looking for cups which were not on the machine in the first place.

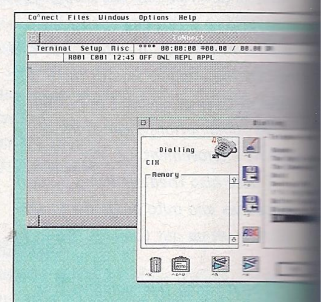
A McRobbie, Stirlingshire



Be careful not to dislodge all the keyboard cups when carrying out any repairs to your keyboard...



Compo's Stalker is a solid commercial comms package...



... while CoNnect is in a league of its own in terms of interface and features.

one from scratch, making sure you don't exceed the 4,096 bytes limit. *Ofir Gal*

Connect me



Q I've been interested in computer communications for some time now. Recently I decided to upgrade my old 2400bps modem for a super-fast 14,400 model. I'm very happy with my purchase, which makes comms a joy and has improved file-transfers out of all proportion. My main comms terminal has always been Uniterm but this program is looking slightly long in the tooth now. Could you advise me on which terminals are available right now and which I should choose?

Duncan Brownwell, Devon

A You're quite right in that the change up to a 14,400 bits per second modem will revolutionise your use of comms. This speed is now the *de facto* standard and without it you pay through the nose for the generally large data burden of most on-line services. Your comment on Uniterm is also valid – it's a good program but it lacks the interface and some of the functionality of modern comms terminals.

There are a number of terminals available, mostly in the shareware arena, but the two main commercial ones are STalker and CoNnect.

The former is a good, solid terminal with a range of functions and a superb macro language. The interface is a little idiosyncratic

Desk

File

View

Options

File

Open

Utilities

Tools

File

Open

Temporarily

C Programs

Databases

CIX

MultiMedia

W

C:\GUIDES\

W

616969 bytes used in 62 items.

1ST.CONV

HYP

3345

10-03-95

1ST.CONV

REF

181

10-03-95

ALL

REF

13983

27-04-95

AMD1

HYP

19894

22-04-95

AMD1

REF

973

22-04-95

A.WORLO

HYP

7182

21-04-95

A.WORLO

REF

396

21-04-95

CATALOG

HYP

7256

23-04-95

CATALOG

REF

902

23-04-95

CI

HYP

9711

23-09-94

CI

REF

492

23-09-94

CIXCOMM

HYP

39522

25-08-94

CIXCOMM

REF

713

29-06-94

CO

HYP

9220

23-09-94

CO

REF

548

23-09-94

CONEMAN

HYP

4796

05-07-95

W

E:\

87926 bytes used in 7 items.

W

C.SOURCE

11-05-95

LCS

11-05-95

RSC_DS

11-05-95

BRACKCHK

TTP

9678

11-05-95

CB

TTP

15865

11-05-95

CDECL

TOS

43250

11-05-95

VARLINT

TTP

19133

11-05-95

Date

11-05-95

DATE

Back

Fetch

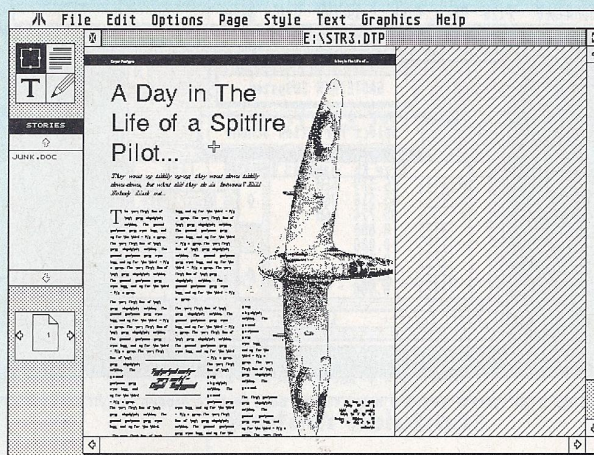
Clipboard

A simple and cheap way to get extra pixels is to fit an AutoSwitch Overscan board (from System Solutions or Compo) to your ST. The hatched area shows the extra screen area this would provide over the standard high resolution screen.

Timeworks speed

TIP Running Timeworks 2 from floppies is painfully slow, especially on a 1Mb system. However it is possible to run it from a RAMdisk if you use the shareware Maxidisk, as this compresses files as they are placed in it. Using the auto load function, you can squeeze all the necessary files in, as long as you leave out the on-line help ones. It's slow to load, but after that the program really flies – it's a joy to use.

Alan Edwards via Internet



Use Maxidisk with Timeworks 2 for a serious speed improvement!

and its terminal emulations are not perfect but it's a good buy at just £39 from Compo.

The latter is an altogether excellent example of what can be done with the new GEM standards. A lovely interface wrapped around all the functions under the sun and it's shareware too.

You should be aware that power does come with a price and that Connect is not at its best on a standard 8MHz Atari ST.

You can reach Compo on 01487 773582 and Systems Solutions

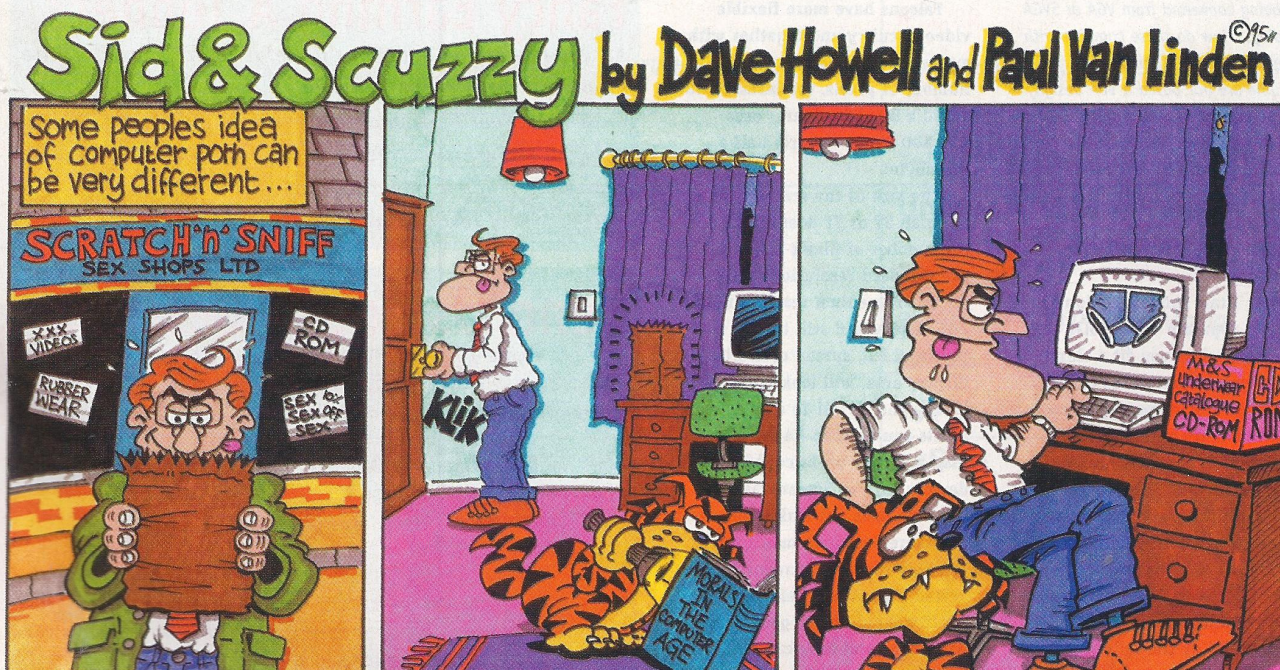
(which handles CoNnect) on 0181 693 1919. *Graeme Rutt*

Monitor mess



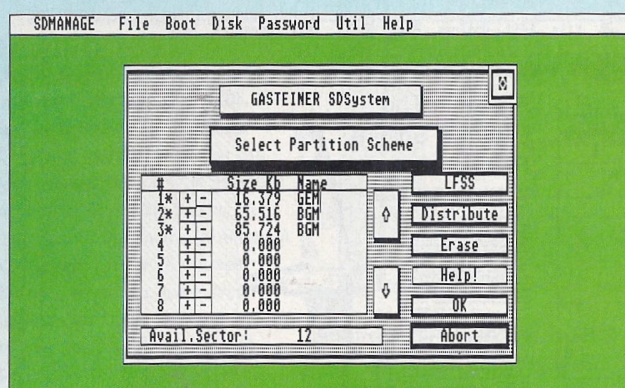
Q I'm new to the world of computing and I wonder if you could advise me on a few points to do with displays.

● I read an article in a PC magazine that indicated that more Video RAM is required the higher the resolution of the machine's display. I also understand that the ST has no



SD System boot

TIP For owners of Gasteiner hard drives that use the SD System software, it is possible to boot from a floppy without disconnecting the hard drive but the method is not mentioned. Simply reset the computer and when booting begins, press and hold down the "A" key. The computer then boots from drive A without loading the SD Drive software. Andrew Ward, West Yorkshire



Gasteiner's SD System software has a floppy boot feature hidden away...

"Video RAM" and instead uses its main memory. Does this then mean that the higher the ST display mode, the more of its memory is unavailable to a program. If so, how much memory is lost in the 3 modes?

● I'm considering buying a colour monitor. I know that they are considered of higher quality than a TV but isn't the physical size of the screen also a factor? In that case, wouldn't a large-screen TV of 20" (or preferably larger) offer some advantages in discerning small detail over a 14" colour monitor? What if connected via a SCART socket?

● I may instead buy a mono monitor and I note that some are advertised as being converted from VGA or SVGA displays. How do these compare with Atari's dedicated products (which I assume are not based a VGA design) in the quality of their displays? Do the converted designs retain their abilities to be used with PCs in a future upgrade, or have they lost this ability?

Vincent Corney, Surrey

A Atari computers don't have separate Video RAM (unless you fit a third-party graphics/monitor card) but store the video image in the main memory before sending that data to the monitor for display. On the ST and STE, there are three standard screen resolutions all of which use up the same amount of memory – 32,000 bytes. You can calculate the amount of memory that's being used by the following formula:

Horizontal pixels x vertical pixels
x colour bit planes / eight bytes

So, in medium resolution we have $640 \times 200 \times 2 = 256,000$ bits divided by eight giving 32,000 bytes. The colour bit planes is the number of bits needed to code the number of colours available. High resolution (two colours – black and white) needs one bit, medium resolution (four colours) needs two bits and low res (16 colours) needs four bits.

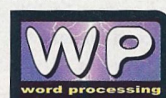
For completeness, the TT has three extra resolutions, the highest being the mono resolution of $1280 \times 1024 \times 1$ which uses 153,600 bytes of memory.

Falcons have more flexible video circuitry and together with extra hardware can display any number of pixels, for instance $880 \times 560 \times 8$ (256 colours) uses 492,800 bytes – nearly half a megabyte!

The size of the screen connected to an ST or TT doesn't affect the number of pixels displayed as the standard resolutions are fixed. On an ST, medium resolution on a 20" display will still be 640×200 pixels which, spread over a large display area, will look large, blocky and awful! To display extra pixels you need to fit third-party display cards. On Falcons you need devices such as ScreenBlaster.

Atari does not make computers any more, let alone monitors so the only source of screens is converted VGA ones. Their display quality should be as good as old Atari ones and they can be used with PCs. Mark Baines

Which WP?



Q In issue 1 of Atari World, Graeme

Rutt claimed that the best two word processors for the Atari are That's Write and Papyrus Gold. How do these compare with Protext?

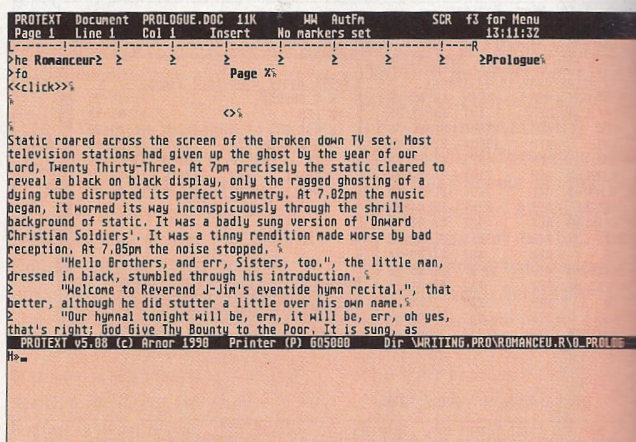
Also, I would love to have a go at the world of comms but am put off by the possible frightening costs and the enormity of some of the systems you can access.

A. McRobbie, Stirlingshire

A I stand by my claim that those two programs are the top two word processors for the Atari range. Protext is a great word processor; it displays text extraordinarily quickly, it's very, very powerful and has

almost every feature you'd ever want. But bare power isn't the only criterion to judge software by. When you use Protext you lose the familiarity of the standard GEM interface and the ease of immediate WYSIWYG feedback. There's also little chance of getting it working on slightly non-standard systems (MagiC, MultiTOS and so on). This is why I can't rate it in the top two, though it does come a close third.

Comms can become expensive if you don't keep a check on it, but with a little sense it can be a relatively inexpensive hobby. A fast modem (14,400bps or faster), a Mercury line, an off-line reader and a local call rate Internet access Point of Presence can add up to a much more pleasant telephone bill. Graeme Rutt



Protext - a close third in the WP Wars.

Fancy Earning A Tenner?

All you have to do is send us a useful tip for your favourite program – what could be easier!

Send us your hint on a disk, saved as a text file (preferably), along with a screenshot for illustration, or possibly a drawing if it's a "you can build this" style tip. We'll pay £10 for every reader hint that we publish.

Send Us Your Questions

Can't find anyone to answer that nagging question? Then drop us a line. Our team of experts are on hand to investigate and solve almost anything you can throw at them. Just send your letters to:

Atari World Q&A, Specialist Magazines Ltd, Unit 3 Green Farm, Abbots Ripton, Huntingdon, Cambridge PE17 2PF
or email them to:
ogal@cix.compulink.co.uk

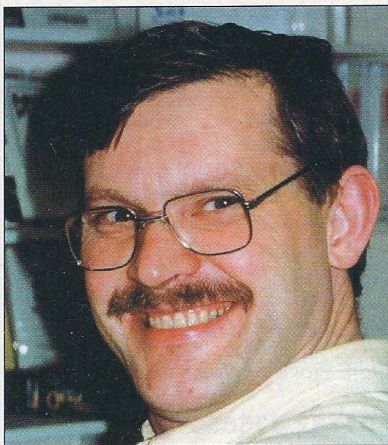
While every effort will be made to answer your question within the pages of either Atari World or Atari Pro, please note that individual correspondence cannot be entered into.

Advertiser / Company Listings

16/32 Systems 81 173 High Street, Strood, Kent, ME2 4TW. Tel: 01634 710788	Gasteiner Technologies 3 126 Fore Street, Upper Edmonton, London, N18 2XA. Tel: 0181 345 6000	LAPD 88 P.O. Box 2, Heanor, Derbyshire, DE75 7YP Tel: 01773 761944
Atari Workshop 13 Windsor Business Centre, Vansittart Road, Windsor, SL4 1SE Tel: 01753 68909	Goodman PDL 78 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, ST3 1SW Tel: 01782 335650	Merlin 66 P.O. Box 77, Stroud, Gloucester, GL6 9YD Tel: 01452 770133
Branch Always Software 11 14150 N.E. 20th Street, Suite 302, Bellevue, USA, WA 98007 Tel: 001 206 236 0540	HiSoft 44, IBC, OBC The Old School, Greenfield, Bedfordshire, MK45 5DE. Tel: 01525 718181	System Solutions 12, 75, 102, 105 The Desktop Centre, 17-19 Blackwater Street, East Dulwich, SE22 8RS Tel: 0181 693 1919
Caspian Software Ltd 9 Block 1a, Lee Valley Techno Park, Ashley Road, Camden, N17 9LN. Tel: 0181 880 4450	Impact Software 33 12 Bell Lane, Syresham, Northants, NN13 5HP. Tel: 01280 850450	The Upgrade Shop 92, 93 37 Crossall Street, Macclesfield, Cheshire, SK11 6QF. Tel: 01625 503448
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TalkBack

Each month, Vic Lennard puts an industry figure on the hot spot with four searching questions. Time for Karl Brandt, managing director of System Solutions and Atari Workshop, to face the music...



Karl Brandt, System Solutions and Atari Workshop.

In what state is the current UK Atari Market?

"I believe that the UK Atari Market is in a state of shock. In mid '94 *ST User* passed away and in November '94 the *ST Review* title was bought by Future Publishing effectively terminating the title. And extra confusion is caused daily by the media hype for the PC platform. No wonder many ST users feel depressed. I can understand that.

"But the depression will pass as more people discover that there is still development and good support for software and hardware. We are planning to release many new products and most of our programmers have assured us that they will continue to support their products. The release of MagiCMac in particular has prompted many software companies to update their products."

You've diversified into MIDI, digital recording and Macs. Do you feel that this has been the right direction? Why not PCs?

"Over 60% of our customers are musicians. With the Falcon030 and the arrival of excellent products from SoundPool and Steinberg, we are following our clients' demand.

"MagiCMac allows Atari users to protect their software investment. As the Macintosh uses Motorola processors, like the Atari, it is like a cousin. With some limitations, the Macintosh Performa is faster than a TT and, currently, quite a bit cheaper. Mac and MagiCMac equate to fast '040 computing in a familiar GEM environment with access to a whole new world of interesting Macintosh applications.

"We have been building PCs for a long time. They are useful for certain tasks but can be a real can of worms. The Falcon030 with a 16MHz system clock can handle 8 tracks of 16-bit high quality digital audio. Try that with any other computer and check how much

money you have to spend! I can assure you it will be substantially more – and with a lot less features than for a Falcon system. I am sure we are doing the right thing by steering customers away from the PC. However, if you need a PC, we will give you expert advice and build a system to your requirements."

Is the German market still providing quality product?

"There are more new products coming out of Germany than we can handle here at System Solutions, and with many more to come. I am sure we will fill many pages of *Atari World* with reviews of brand new products!

"Some major upgrades are expected. A new version of HD-Driver, which will allow true DMA multi-tasking with MagiC 3, is now in a late phase of testing and there are other truly exciting developments."

What is your initial response to Atari World?

I am delighted. Frankly, the first two issues have been a good read and, against all odds, with very few mistakes. I am particularly pleased about the advertising rate system. For the first time, a publisher is addressing the needs of a small market properly by allowing small companies and developers to advertise products at a cost that does not force the selling price up to a point where the product is no longer interesting to most customers.

High advertising rates have killed more products and companies in the Atari market than any other factor. There are more companies active in the Atari market than most users would expect – but they just don't have the corporate advertising budgets.

I am convinced that the publication of *Atari World* will revive and reach parts of the Atari world that others cannot reach. Keep up the good work!

ATARI World

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Colour reproduction by Meridean House plc
 Tel: 01733 312313

Printed by Goodhead Heatset
 Tel: 01869 253322

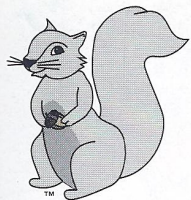
World-wide distribution by SM Distribution
 Tel: 0181 677 8111; Fax: 0181 664 6216

Atari World is published by Specialist
 Magazines Ltd (Registered office: Salisbury
 House, Station Road, Cambridge CB1 2LA)

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NUTS TO YOU ALL!

As you will see from this page, we are still nuts about the Atari range of computers and are continuing to support the platform. We have released over 50 titles for the Atari over the last 9 years (most of them are to be found on this page, somewhere) and now we announce **Squirrel Storage Systems** - SCSI peripherals at realistic prices. We think that it's about time that Atarifolk were able to buy quality SCSI devices at competitive prices, so we have put together some very special deals based on high quality components, all with 2 year warranty. (Atari ST/STe owners will need a SCSI interface). Whether you're buying SCSI for the first time, extending your SCSI chain or fitting more units in a tower case, why not take advantage of the generosity of our storage-hungry squirrel and grab his nuts while you can!

SCSI CD-ROM Drives



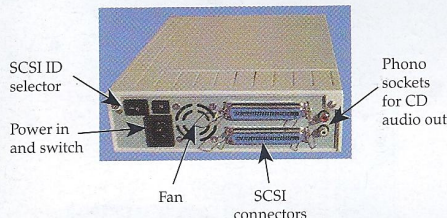
Squirrel 2x - int £129, ext £189
New! Squirrel 4x - int £199, ext £259

Introducing our brand-new quad-speed CD-ROM drive, the Squirrel 4x; a feature-packed, lightning-fast drive at a stunning price. This is the flagship of our range of CD-ROM drives, all designed to suit your needs and your pocket.

Squirrel CD-ROM drives are cased in extremely stylish enclosures with two SCSI connectors and offer fast access times, stereo headphone sockets with volume control, phono line output, PhotoCD™ multi-session support, CD-DA (digital audio) compatibility with the convenience of tray-loaded action. The Squirrel 2x CD-ROM drive offers 300Kb/sec transfer while the Squirrel 4x attains a 600Kb/sec sustained transfer rate, with an access time of only 190ms.

You will need suitable CD-ROM driver software; please add £29.95 if you require us to supply this.

Squirrel SCSI Cases



All our Squirrel SCSI devices come either bare (int - ready for installation internally within a suitably-equipped Atari or other computer) or fully-cased (ext) with integral multi-voltage power supply, SCSI in/out, SCSI ID selector and audio out (for CD-ROM). The cases we supply are high quality, shielded, snap-together enclosures, each with 40W power supply - the back panel of the 5.25" case is shown above. These SCSI enclosures are available at **£69.95** each (please specify 3.5" or 5.25" when ordering).

Please note that, unless you already have one, you will need a SCSI interface for your Atari ST/STe in order to attach our Squirrel SCSI devices. We recommend the ICD Link 2 which we can supply at **£69.95** inclusive.

Essential Utilities

These are programs that you should never be without.

Diamond Back 3* - hard disk backup	£39.95
Diamond Edge* - hard disk maintenance	£39.95
XBOOT 3 - boot management	£29.95

Ordering Information

All HiSoft products should be available through your favourite Atari dealer but if you have difficulty in obtaining any title, we offer some special direct-to-you prices as listed on this page. To order directly from HiSoft - just call us free on **0500 223660**, armed with your credit or debit card; we will normally despatch within 4 working days for a postage charge of £4 or, for £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders; please add postage as appropriate. All prices include UK VAT. Export orders: call or fax to confirm pricing and postage costs.

Order Free on 0500 223660

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SyQuest Drives



44Mb - int £129, ext £189
88Mb - int £269, ext £329
270Mb - int £419, ext £479

Introducing removable SCSI drives for your Atari computer. Based on reliable, proven SyQuest™ mechanisms, these 44Mb, 88Mb and 270Mb units offer transportable, compact, high performance and, above all, expandable storage for all your computing needs. SyQuest is the world leader in this technology across computer platforms which means that you can transfer work between Atari, Macintosh™ and PC, with ease. Our drive prices include 1 free cartridge.

Programming

Our first program on the Atari platform was our HiSoft Devpac assembler and we have always regarded the Atari 680x0 computers as ideal machines on which to develop your programming skills. Over the years we have produced a wide range of programming languages and associated utilities and now here is a great opportunity to purchase anything that you may have missed or perhaps have not been able to afford.

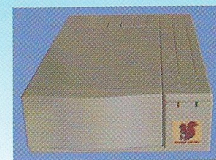
HiSoft Devpac 3.10*	£59.95
DevpacDSP Falcon*	£49.95
HiSoft BASIC 2.10*	£79.95
HiSoft BASIC 2.02	£59.95
Lattice C 5.6*	£99.95
Personal Pascal	£29.95
WERCS	£9.95
First BASIC with	
 Your First BASIC book	£19.95
Modern Atari System	
 Software book	£15
The Atari Compendium book	£39.95

Graphics

We offer two superb True Colour packages for painting and image processing.

TruePaint*	£19.95
TruelImage*	£39.95
TruePaint + TruelImage*	£49.95

SCSI Hard Drives



270Mb £169, 540Mb £239
730Mb £279, 1Gb £479
Add £60 for external units

Hard drives are becoming more and more affordable and we can now offer some tremendous prices on a range of superb quality drives in a range of capacities.

These drives offer fast seek times (14ms @ 270Mb, 11ms @ 540/730Mb, 9ms @ 1Gb), large caches and high speed data transfer rates. All units can be supplied for you to fit in your own case or pre-installed in one of our professional Squirrel SCSI cases.

We can supply all necessary SCSI connecting leads (both internal and external), SCSI terminators etc. Please feel free to call and discuss your exact requirements with our friendly, technical staff.

Productivity

Two power programs and one three-in-one program here to satisfy all your word processing, database and spreadsheet needs.

Papyrus Gold*	£129
Twist 2 database*	£59.95
Atari Works*	£59.95
Papyrus Gold & Twist 2 bundle	£169

Music/Video

Two years ago we acquired all the Microdeal titles and, since then, we have improved and developed these products, enhancing for the Falcon and re-working the documentation. These are all quality hardware products at superb prices.

Clarity Falcon* - 16 bit stereo sampler	£79.95
Replay 16 - 16 bit mono sampler	£99.95
VideoMaster Falcon RGB*	£99.95
VideoMaster ST RGB	£89.95
ColourMaster - RGB splitter	£49.95
StereoMaster ST - 8 bit stereo sampler	£29.95
PlayBack ST - 8 bit stereo playback	£24.95

** Falcon enhanced title. Some programs need extra memory and a hard disk to function; please check first if you are in doubt. All offers subject to availability and strictly only valid to readers of this magazine and until 30 May 1995. E&OE. © HiSoft 1995.*

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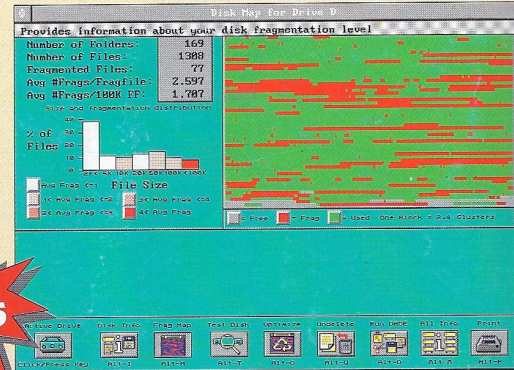
Diamond Edge 2 Ships!



Finally, the wait is over. The biggest upgrade to the best disk utility program ever is complete and is shipping *now*! Over two years of programming have gone into this Diamond Edge upgrade that *no* Atari owner should be without.

- Disk Diagnostics
- Disk Repair
- Data Recovery
- Disk Optimisation
- Disk and File Editing
- File Undelete
- Disk Information Archiving
- Disaster prevention and recovery

only
£49.95

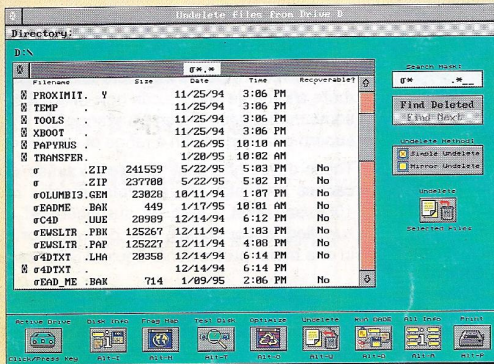


The Disk Fragmentation Map plus Statistics

Diamond Edge, the most popular and powerful hard disk management tool package for the Atari has undergone its first major overhaul in 2 years. New features include a streamlined, re-designed user interface, many new and enhanced functions, internal speed optimisations, plus new programs like Diamond Mirror 2 and Diamond Advanced Disk Editor (DADE).

Re-designed from the ground up with the user in mind, Diamond Edge 2 is the most advanced, easiest-to-use disk management system available for TOS computers. It is fully compatible with all Atari computers and disks, disk formats, TOS versions, and alternative operating systems like Multi-TOS, Geneva, and MagiX.

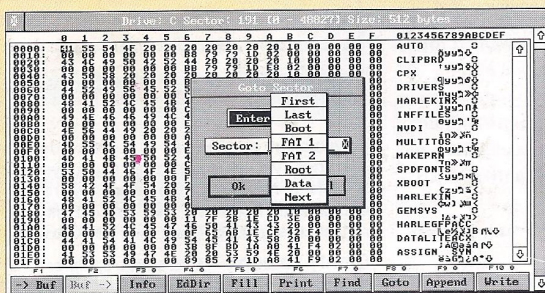
Protect yourself from data loss with Diamond Edge 2 at a great value-for-money price; comparable software on other platforms costs over £100. Diamond Edge 2 is economical insurance against disk problems and data loss. You simply cannot afford to be without it. Upgrades include a completely re-written and expanded manual.



Diamond Edge 2; un-deleting files is a piece of cake

There are two types of computer users; those who have lost data and those that *will* lose data. Diamond Edge 2 creates a third ruling class: those that are protected from data loss! Your data is too valuable to be without the protection of Diamond Edge 2.

Diamond Advanced Disk Editor

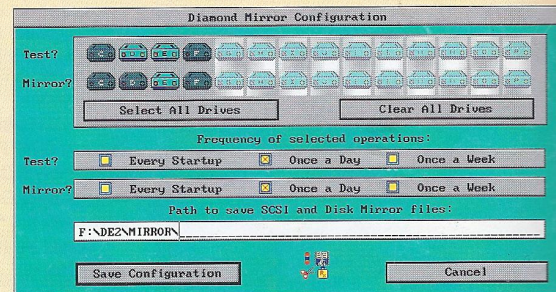


DADE - the powerful disk editor included in Diamond Edge 2

There are other disk editors, but none as powerful, flexible, and easy to use as DADE. Specifically designed with time-saving and impressive features to aid any editing or recovery effort, there is *no* other disk management system that offers as much, including Physical Device Level Disk Editing. The ultimate in data recovery and low level power tools.

- Edit physical disk sectors, logical disk sectors, or files. Supports all Atari disk formats and sector sizes.
- Cut/paste buffer.
- Drive Info window. Includes locations of key disk structures.
- Easy navigation around the disk with a pop-up GoTo function. Special function to search for lost directories.
- Easy to use edit window with Offsets, Hex, and ASCII displays.
- Convenient function button bar. Many with special time saving features when double-clicked.
- Easy-to-use Directory Edit window decodes the information for you with a trace feature for FAT entries for a file. Very nice!
- Flexible Fill function.
- Powerful search and replace function.
- Rebuild lost files sector by sector.

Diamond Mirror 2



The Diamond Mirror Configuration dialog

Diamond Mirror 2 (use regularly to 'snapshot' your drive) has been greatly enhanced to include complete testing of disks at boot time as well as keeping backup copies of Mirror Files.

Upgrades ➔

Upgrades from version 1 of Diamond Edge cost only **£29.95** - just send your master disks back with your remittance. Silver or Gold support customers can order over the phone with a credit/debit card - please call for details.

Order Hotline

0500 223660

To order the brand-new Diamond Edge 2 package (or any other HiSoft product, just call us, completely free of charge, on **0500 223660**, armed with your credit or debit card; we will normally despatch within 4 working days (£4 P&P) or, for only £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders. All prices include VAT. Export orders: call or fax to confirm pricing and postage costs.

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